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Textile World

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Sell Wool on Its Merits!

ANY new demonstration of merchandising alertness on the part of the textile industry is inspiring. Likewise, any new move to exert leadership in the wool division of that industry is welcome. Consequently, last week's Washington conference, which endorsed the idea of National Wool Week, was doubly significant. Those manufacturers who participated—few in number but staunch in the faith—deserve congratulations. More important still they will need help.

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As was true with National Cotton Week, it is necessary that one thought be kept uppermost through all the discussions of, and preparations for, National Wool Week: It is not possible to sell cotton, wool, or any other product on any basis other than its merits. Appeals to patriotism, or to sectional pride, or to any other grand emotion, are just so much ballyhoo —and don't produce results.

If there ever was a time when ballyhoo methods could sell effectively—which we doubt—that time has passed. Today a consumer scrutinizes most carefully the return offered for every dollar of his budget, and a product has to show its worth.

The merits emphasized at the Washington meeting were the health and style factors of wool materials. There are many more which might be mentioned: durability, wrinkle-resistance, dye-fastness, etc.

On the ballyhoo side are efforts to induce the public to buy wool for wool's sake or for the self-interest of those who make their livelihood in the wool industry. We doubt that any man ever bought a suit of clothes merely as a gesture of support to the tailoring business. Also we believe that a plan to distribute pledge-cards to employees committing signers to give at least three Christmas presents of wool falls somewhat into the same category, even though advanced by a concern whose progressive work on behalf of the industry merits fullest praise. Irrespective of individual opinions as to the worth of this particular plan, we do not feel that it represents the type of effort which should dominate such a vital enterprise as National Wool Week.

Wool goods have enough to recommend them in the way of style, value, warmth, etc. They can be sold on their own merits.

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It is not at all impossible that, out of the Wool Week development, there may germinate the beginnings of a new central organization for the wool industry; it is an opportunity for new leadership. Much will depend upon the aggressiveness and efficiency with which the promotional drive is conducted. Wool manufacturers are again facing a crucial period.

The Week in Textiles

as Reflected in This Issue

General

Microscopy for the Manufacturer

A continuation of the microscope series deals with the application of microscopy to manufacturing, finishing, and testing. Crimp determination is easily and accurately accomplished by means of the microscope. *(page 30)*

The Prosperity Route

Higher wages and lower commodity prices are declared necessary before permanent prosperity for capital and labor can be reached in a speech by E. A. Filene before a social-economical congress in Amsterdam, Holland. *(page 37)*

Testing Machine Improvement

Announcement is made of the addition of alignment pins to the jaws of testing machines. The purpose of this device is to assist in the securing of more accurate and comparable results. *(page 45)*

Frozen Credit an Impediment

Frozen credit is named by Dr. L. H. Haney in this week's TEXTILE WORLD Analyst as probably the most important obstacle to business recovery. He adds that it hardly seems probable that business will be ready for sustained recovery this fall but progress has been made in getting ready for recovery. *(page 49)*

Cotton

Shoe Fabrics

The leno weave is an important factor in the construction of fabrics for use in the shoe trade. Other cotton shoe-fabrics are discussed. *(page 23)*

New Wall Covering

Thin wood veneer backed by cotton fabric is offered as a new wall covering under the brand "Flexwood." It offers a new use for cotton goods and an effective mural treatment. *(page 27)*

Spinning-Roll Bushing

A bushing consisting of an oil-soaked wooden form enclosed in a steel shell has been developed to eliminate the necessity of frequent application of oil. *(page 44)*

Bale Breaker

A new bale breaker has been developed having an auxiliary device for the purpose of more thoroughly opening the stock. *(page 44)*

Low Point Passed?

A rally in cotton this week raised doubts in traders minds as to whether or not bottom has been passed. Many expect new lows to be registered this fall. *(page 53)*

Yarns Were Quiet

Cotton yarns were quiet this week with buyers pressing for extremely low prices. Spinners are resisting this pressure in an endeavor to establish some margin for profit. *(page 53)*

Only Spot Goods Sell

The goods market lacked general activity though some houses reported satisfactory sales. Such business as was done, however, was limited to spots. *(page 59)*

Wool

Worsted Spindle Inventory

A worsted spindle inventory taken by the Industrial Research Department, Wharton School of Finance and Commerce, University of Pennsylvania, indicates that the worsted spindleage of this country totaled a little over 2,575,000 in the spring of 1931. The worsted spinners idle last spring were those using the English system with only one exception. The survey and its tables are given. *(page 20)*

Mule Snarl-Prevention

The causes of snarls which occur in mule-spun yarns are thoroughly discussed and preventive measures are recommended for the mule spinner's guidance. *(page 24)*

Removing Lubricant from Worsted

Blended oils seem to be favored for use as a lubricant for worsted yarn manufacture. Considerable information is given as to the preparation and application of lubricating oils to wool. *(page 46)*

Astrakhan and Kid Mohair

Factors which govern the manufacture of an astrakhan yarn are discussed, and twist values are recommended for kid mohair yarn to be used for knitting purposes. *(page 47)*

Wool Holds Firm

Wool is demonstrating its stability and Boston reports a fair market at firm prices. There seem to be no loopholes and traders are optimistic in maintaining their levels for some time to come. *(page 55)*

The Textile Outlook

WERE it not for the continued feeling of depression in general business, textiles might be considered in position to move forward. As it is textile merchants view their fields through glasses tinged with the color of the general situation. Hopeful signs are given scant attention because of belief that small items cannot successfully buck the general current. There is of course much truth in this; for textiles cannot easily lift themselves by their own boot-straps. They can, however, become leaders in the gradual movement up and out. By cultivating their own gardens well, they can improve their own condition and perhaps aid their sister industries in getting business to grow in arid soil. Cotton goods are quiet, the trade not being impressed by the recent rally in raw cotton. With fall needs right at hand there is a real chance of buyers being pinched by a maintained upturn. Wool goods are quieter and sellers expect new business to come to hand more slowly for a while. Silk goods show real gains and acknowledge a better outlook. Knit goods show improvement due to pressure of fall business.

Yarns Firm But Quiet

Worsted yarns maintain a strong market but spinners admit that business is not active. Although there is a background of general firmness, buyers are looking for bargains. *(page 55)*

5% Fabric Price Cut Seen

Woolen and worsted mills are becoming resigned to prospects of a 5% cut when spring lines open. Word is passed big firms will revise lists. *(page 59)*

Knitting

Full-Fashioned Hosiery Survey

Full-fashioned hosiery stock totaled 3,800,000 doz. pr. on June 30, 1931, according to a survey by the Wharton School in cooperation with the National Association of Hosiery and Underwear Manufacturers. This is a reduction of about 8.3% from Jan. 1. For that period output was cut about 15% from the similar period of 1930. *(page 36)*

Uneven Fabric

A simple test to determine whether or not unevenness of knitted goods is due to uneven yarn is described. *(page 47)*

Chiffon Stockings

The specifications of a circular chiffon stocking, including size of threads and lengths of the various parts, are outlined. *(page 47)*

Winter Sweaters Active

Orders exceed stocks in winter sweaters due to backward season and distributors have difficulty in getting early deliveries. *(page 60)*

80% Fall Underwear Orders In

About 80% of the initial fall underwear business has been placed, and lightweight lines for spring are nearly ready to open. *(page 60)*

Equipment Purchases Indicate Trend

TWO events of the week are of more than usual significance, as they indicate a belief that textiles are definitely on the upward move, and a disposition to invest in needed equipment.

Pacific Mills confirmed on Thursday the fact that they have decided to install eight printing machines in their plant at Lyman, S. C., possibly transferring part of the equipment from Lawrence. They state that the new move will involve an expenditure of about $500,000. It has been known in the trade for some time that Pacific was considering the addition of printing to the functions of its Lyman plant; decision to do things now is regarded as reflecting optimism on the outlook.

The other development was the order placed with Saco-Lowell Shops by Pepperell Mfg. Co. for 194 long-draft spinning frames, comprising 50,000 spindles, for installation in its plant at Lindale, Ga. Delivery is to commence in October.

It is generally realized that there is a tremendous latent demand for new textile equipment, primarily for replacement purposes but also for addition in those cases where conditions warrant. Any move toward commitment for those needs is hailed as index of a turning-point.—*Editor.*

Quality Hosiery in Good Call

High-priced full-fashioned hosiery shows improvement and mills are selling 30 days ahead in some cases; demand very uneven. *(page 60)*

Silk

Silk Industry Week

"Silk Industry Week" to be held in Paterson, N. J., Nov. 14 to 21, 1931, is shaping into an industry wide event. In particular the silk machinery exhibition promises well with one-third of its space already sold. The convention features of the week promise a group of authoritative speakers. *(page 22)*

Soaking-oil Tests

A simple method of determining the suitability of various soluble silk-soaking oils is outlined. This is a new method and may be accomplished with much more speed than the one now generally employed. *(page 28)*

Silk Prices Stronger

Sustained firmness in Japan has strengthened silk prices; some grades have advanced. Sporadic demand from broadsilk mills, but generally movement is light. *(page 57)*

Spun Silk for Velvets

Current call for velvets has brought a fair movement of spun silk which goes into production of these fabrics. Thrown yarn is quiet. *(page 57)*

Broadsilk Outlook Good

Active buying at reasonable levels prevails in broadsilk market and outlook is better than for months past; stocks light. *(page 59)*

Rayon

Yarns Selling to December

Rayon movement is healthy, especially futures, and producers are writing orders to the end of the year; some firms have taken October business equal to 25% of months' output. *(page 57)*

The Business Outlook

BY LABOR DAY, August will probably have put in its claim for the honor of being the much-heralded, honest-to-goodness bottom, and may win by a nose over July and last December. The endurance dance of this unduly prolonged depression ought by all odds to end this month, if ever. Precedent of 1921 favors this hopeful prospect, for in the summer of that year stocks and trade sloshed along in uncertain stagnation, as they have this time, till September. A strikingly similar advance improvement in textiles and other consumer industries, accompanied by sporadic strength in individual stocks, has appeared. Commodity price levels have shown unusually early and prolonged stability, and exports seem to have reached a resistance level. Still, the third week of August gives no sign of expected seasonal improvement, and scepticism about its prospective strength increases. Our index continues to slide down to new lows. Steel oscillates uncertainly; carloadings, bank debits and power production show unseasonally persistent slackness. Late building figures alone lend a little fitful light to the gloom of the steadily weakening bond market.—*The Business Week.*

Processing

Sources of Oil Stains

Steps to be taken in the elimination or removal of oil stains in piece goods are outlined. Precautions should be taken in the selection of oils for various purposes. *(page 35)*

Tinting Crepe Yarn

Tinting is often applied to silk and rayon yarns for the purpose of making twist distinction an easy matter. A good method of application is outlined. *(page 46)*

Linen Thread Finishing

The method of applying a wax finish to linen thread is outlined in detail and it is pointed out that precautions should be taken in using this process. *(page 47)*

Initial Results of

Worsted Spindle Inventory

◆ *The initial report of another of the excellent research studies in the woolen and worsted industry conducted by the Industrial Research Department, Wharton School of Finance and Commerce, University of Pennsylvania, is now available and is printed below.*

This report is the first of a series analyzing the results of the 1931 worsted spindle inventory. Attention is here paid to the distribution of worsted spinning spindles among sales yarn, weaving, and sales yarn-weaving mills in the spring of the current year. In addition a brief comparison is drawn between current worsted spindleage and that of 1919, 1925, and 1927.

Subsequent inventory releases will deal with worsted yarn production in 1929 and 1930, size and age of worsted spinning frames and mules, and post-war trends in both worsted sales yarn production and spindleage. As explained later in this report, the present inventory approximates a complete census of the country's worsted spindleage.

INDUSTRIAL capacity must change. So long as population continues to grow, and purchasing power and consuming habits continue to change, just so long must industry continue revamping its capacity to produce. Whether or not such revamping at any particular time will be overdone, either in the direction of too much expansion or too much scrapping, depends in part on knowing what is happening to demand and how much equipment is on hand to meet this demand. Of course, many forces play on management with respect to changes in plant capacity. Yet how can management adequately judge the situation unless facts are at hand on industry capacity and prospective demand.

Realizing that it is often difficult for the individual firm to provide itself with such information, the Industrial Research Department began this year a periodic inventory of worsted spinning spindles for the worsted industry. The current inventory has obtained basic facts as to the amount, nature, location, and age of the worsted spindleage now in American textile mills. This information is essential to any more elaborate measure of capacity changes which might be developed, and even in itself will represent a fair measure of capacity changes as it is periodically brought up to date. However, spindleage is only one side of the shield; the story should eventually be made complete with a periodic analysis of yarn demand. A step in this direction is the department's study of worsted yarn production begun in 1928 and continuing in connection with the inventory.

How the Inventory Was Taken

In March of this year an inventory schedule was mailed to all textile firms thought likely to own worsted spindles. Of the 152 firms now known to have worsted spindles, 115 have replied to the Industrial Research Department's request for spindleage information. In terms of individual spinning mills, 146 out of a possible 190 mills have replied. It is estimated that the reporting firms own 79% of the country's French spindleage, and 83% of the country's English spindleage.

In order to make the inventory a complete census, an effort was made to obtain information about the spindleage of non-reporting firms.* Although secured from reliable sources, such as the trade directories, this information is at best approximate as compared with that furnished directly by cooperating firms. The figures for reporting and non-reporting firms when combined as in the tables of this release furnish a fair measure of the country's total worsted spindleage. Generally the word "specified" appearing in any table refers to non-reporting spindleage about which detailed information could not be secured.

Distribution by Kind and Mill Type

In the spring of this year, there were slightly in excess of 2,575,000 worsted spinning spindles in American textile mills. This figure includes worsted spinning spindles in carpet mills and knitting plants as well as those in regular worsted mills. Measured in spinning spindles, the English branch continues to dominate with over 1,700,000 spindles available for English yarn manufacture, or two-thirds of the country's existing worsted spindleage. However, if one considers only the spindleage of active mills, the English percentage drops from 66 to 63%. This is

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Table I—Worsted Spinning Spindles in the United States, Spring, 1931, by Kind and Mill Type

	Mill Type				
Kind	Sales Yarn	Weaving	Sales Yarn-Weaving	Idle	All Types
English	511,766	416,700	551,988	190,462	1,670,916*
	31%	25%	33%	11%	100%
French	323,996	138,700	404,564	4,500	871,760
	37%	16%	47%	—%	100%
Total	835,762	555,400	956,552	194,962	2,542,676*
	33%	22%	38%	7%	100%

* Exclusive of four English firms whose spindleage is unknown—total probably not in excess of 35,000 English spindles.

Table II—English Spinning Spindles in the United States, Spring, 1931, by Kind and Mill Type

	Kind of Spindle				
Mill Type	Cap	Flyer	Ring	Unspecified	Total
Sales Yarn	486,466	14,628	5,872	4,800	500,766
	95%	3%	1%	1%	100%
Weaving	285,832	60,412	45,256	25,200	416,700
	68%	15%	11%	6%	100%
Sales Yarn-Weaving	536,136	5,120	10,732	.....	551,988
	97%	1%	2%	.....	100%
Idle	181,116	5,746	3,600	.....	190,462
	95%	3%	2%	.....	100%
All	1,489,550	85,906	65,460	30,000	1,670,916*
	89%	5%	4%	2%	100%

* Exclusive of four English firms whose spindleage is unknown—total probably not in excess of 35,000 English spindles.

Table III—French Spinning Spindles in the United States, Spring, 1931, by Kind and Mill Type

	Kind of Spindle			
Mill Type	Mule	Ring	Unspecified	Total
Sales Yarn	290,956	33,040	.....	323,996
	90%	10%	.....	100%
Weaving	128,300	10,400	.....	138,700
	93%	7%	.....	100%
Sales yarn-weaving	333,380	31,184	40,000	404,564
	82%	8%	10%	100%
Idle	4,500	.....	.....	4,500
All	757,136	74,624	40,000	871,760
	87%	8%	5%	100%

*Some information was found on all but four of the non-reporting firms. It is doubtful if these four firms combined have over 35,000 English spindles.

another way of saying that today's idle mills are English mills, as Table I clearly shows.

"Idle mills" refers only to those mills which were found to be completely idle, and in most cases to mills whose equipment will be either sold or scrapped by present owners. Consequently the spindleage of such mills can not be properly classified at present as "sales yarn," "weaving," etc., but must be considered as potential equipment for any type of mill. In Table I, "sales yarn mills" are those mills which spin yarn exclusively for sale, while "weaving mills" are those which spin yarn exclusively for own consumption. Carpet mills and knitting plants making worsted yarn exclusively for own consumption are included under the "weaving" type. Mills spinning yarn for both sale and own consumption are labeled "sales yarn-weaving mills." Commission work has been regarded as "sales yarn." Where a firm has more than one mill, all of its mills have been classified alike, according to the firm's yarn selling policy.

It is interesting to compare the distribution of English and French spindles according to mill type in Table I. Both French sales yarn mills and French sales yarn-weaving mills have relatively more spindles than the corresponding English mills. In other words, there is relatively much more English spindleage which has not been devoted wholly or in part to sales yarn than French. Of the total English spindleage something like 25% is still in weaving mills—mills which do not make yarn for sale. This compares with 16% for similar French mills. In the current tabulation the spindleage of carpet mills making yarn for own looms has been included under "weaving." While such spindleage amounts to 57,000 English spindles, it falls far short of explaining the situation just described; even if these carpet spindles were entirely eliminated, 22% of the total English spindleage would still be in weaving mills.

English spinning practically means cap spinning today since caps comprise nearly 90% of the country's English spindleage. Table II has been prepared to show the proportion of caps, flyers, and rings in the various types of worsted mills.

Weaving mills possess relatively fewer cap spindles than the other types of English spinning mills. In Table II, mills other than weaving are shown to have 95% or more of their English spinning equipment in cap frames, while weaving mills have only 68% of their equipment in caps. Flyers exceed rings by about a third in the balance of the weaving group's spinning equipment. Carpet mills hold about half of these flyer spindles, and the ring frames are for the most part found in Massachusetts and Rhode Island weaving mills. Of course, the influence of the "unspecified" spindles should not be neglected, but even if the 25,200 so listed opposite "weaving mills" were all caps, the weaving group's cap percentage would only be raised from 68 to 75%.

It is perhaps not without significance that cap frames make up 95% of the country's English spindleage in idle mills. Were these spindles rings or flyers, their threat as potential competitors would be negligible. Apparently this is another indication of ring and flyer "obsolescence." With the industry on a cap basis, there is little reason to hold old ring or flyer frames for possible future sale.

As the English branch is a cap spinning industry, so the French branch is a mule spinning industry. Rings find use in all three types of active mills, but not to exceed 10% of the total French spindleage. Sales yarn mills give rings relatively the greatest preference. Complete figures are given in Table III.

The relatively low percentage listed in Table III for mules in sales yarn-weaving mills probably understates the true situation. Doubtless, the greater portion of the 40,000 "unspecified" spindles are mules; in that case the percentage of mules in sales yarn-weaving mills might be raised to around 90%.

Post-War Trends in Worsted Spindleage

While the Industrial Research Department has not completed its work in compiling a year by year record of the post-war changes in total worsted spinning spindles, certain information is at hand in the biennial reports of the Bureau of Census. The biennial census figures on total worsted spindleage in wool manufactures, together with our 1931 estimate, read as follows:

1919	2,283,154	1927	2,789,200
1925	2,835,052	1931	2,577,676

The last figure includes 35,000 estimate for four firms whose exact spindleage is unknown.

From these figures, it may seem that the excess capacity problem is slowly solving itself. Worsted spindleage probably reached a maximum around 1925; according to the above figures, that represented a 24% increase over the 1919 level. More than half of that increase has been eliminated, as our 1931 estimate is only 12% above 1919. If the spindleage in mills now idle were scrapped, current spindleage would be only 4% above the 1919 figure.

Before judging the trend of capacity, however, careful note should be taken of the increased tendency for worsted spinning spindles to be operated on double shift. A spinning spindle on double shift is probably nearly the same as two spindles on single shift. In this connection post-war ratios of the number of worsted spinning spindles reported on double shift to total worsted spindleage reported are interesting. These ratios have been computed from the monthly reports of the Bureau of Census on wool machinery activity, which cover about 90% of the industry:

1919	6.8% on double shift, annual average
1925	6.2% on double shift, annual average
1927	5.9% on double shift, annual average
1931	10.2% on double shift, first six months
1931	13.9% on double shift, June

According to these ratios, twice as much worsted spindleage is on double shift today as in 1919. If these worsted spinning spindles on double shift were considered as additional spindles brought into the industry, they would raise the 1925 figure to 3,011,647 and the 1931 figure to 2,839,362 worsted spinning spindles. This means that the increased use of spindles on double shift has tended to offset spindleage scrapping.

[The Industrial Research Department of the Wharton School of Finance and Commerce, University of Pennsylvania, is headed by Joseph H. W. Willits, director. The Wool Section is composed of H. S. Davis, A. H. Williams, Glen F. Brown, and D. E. Ladd, secretary.—*Editor.*]

Summary of Worsted Spindle Report

1. The worsted spindleage of the country totaled slightly in excess of 2,575,000 spindles in the spring of this year.

2. The worsted spinning mills idle this spring were all English spinning mills, with but one exception.

3. Of the total English spindleage, 25% is in mills making yarn for own consumption.

4. Cap spinning comprises 95% or over of the English spindleage in all types of English spinning mills, except those spinning yarn for own consumption.

5. Ring spinning is not an important factor in French spinning mills.

6. The total worsted spindleage figure for the spring of 1931 shows some decline from the 1925 "peak."

Paterson Makes Fast Strides in Plans for "Silk Industry Week"

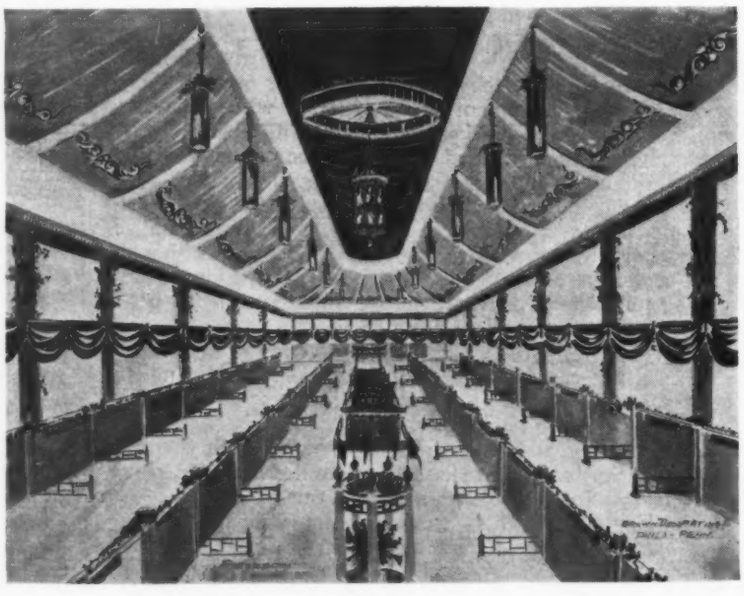
"SILK INDUSTRY WEEK," to be held in Paterson, N. J., Nov. 14 to 21, 1931, promises to be a significant get-together of the silk industry in many branches, including both textile manufacturers themselves and the manufacturers of textile equipment. Despite the double handicap of a backward season and the silk strike, the plans are progressing steadily and with the event still nearly three months off, its scope is widening to cover a representative cross-section of the industry. The project, as announced, is three-fold—a silk machinery exposition, a meeting of the Silk Institute, and a national silk convention. R. DeVere Hope, chairman of the exposition committee, announces that exhibitors have already signed up for one-third of the available space in the machinery show at Paterson Armory.

Numerous leading equipment manufacturers have reserved booths, including Universal Winding Co., Smith Drum Co., Hungerford & Terry, Royce Chemical Co., National Oil Products Co., American Hard Rubber Co., Sipp Eastwood Corp., Textile-Finishing Machinery Co., and Van Vlaanderen Machine Co. The first exhibitor to contract was the Morrison Machine Co. Reservations come in daily and the dyeing and finishing group, Mr. Hope states, is especially well represented. Out of 30 spaces allotted to that division, 26 have already been reserved by equipment concerns.

It is planned that the exposition will give a broad comprehensive picture of machinery advance in all divisions of textiles. Exhibits will show the newest technical development in many lines including: dyeing and finishing machinery; general machinery of the industry—looms, throwing machines, warpers, winders, humidifiers, quillers; manufactured fabrics, dyestuffs, chemicals; accessories—rubber products, roll engravers, mill supplies, oils, testing machines, rayon and other synthetic fibers; lighting, etc.—power, illumination, motors. The silk convention will be held at the Alexander Hamilton Hotel, Paterson, Nov. 18 and 19. Plans for this event are in charge of C. Walter Lotte, as chairman; Mr. Lotte is president of the Paterson Board of Public Works. Cooperating with him are numerous representatives of the dyeing industry including P. J. Connolly, National Silk Dyeing Co., Samuel Grobart, Commercial Piece Dye Works, and A. W. Peardon, Disco Dyeing Corp. The Silk Institute session will be held Nov. 14, in conjunction with the opening of the exposition. The registration charge of $2 will include luncheon and admission to the exposition. Ernest Barber, silk consultant, is chairman of the institute committee, which also includes: Max Baker, American Raw and Thrown Silk Association; Edward Boomer, Jr., Paterson Silk Dyeing Co., Inc., Arthur Harris, Harris Bros. Silk Co., and Joseph Surasky, Surasky Bros. Silk Co.

The programs of speakers for the two latter events are being built up rapidly. Thomas B. Hill, president of the Silk Association of America, will address the convention on "Trade Abuses—Buyer and Seller—Manufacturer." Julius Henry Cohen, New York attorney, will speak on commercial arbitration at the institute session. L. R. Gilbert, of the United States Bureau of Standards, will address the convention on "Standards in the Textile Field." W. N. Doak, Secretary of Labor, wrote to the institute committee approving the plan, and tentatively promising to have a representative attend. A tentative acceptance also was received by the institute committee from William Green, president of the American Federation of Labor.

"Silk Industry Week" is being promulgated with enthusiasm in the Paterson district and industry there expects much from the event in the way of closer coordination among divisions of the industry and between machinery makers and users. The event was initiated by the Paterson Chamber of Commerce, and is under general direction of John J. Fitzgerald, secretary of the chamber. That organization is sparing no effort to make the event both representative and constructive. Paterson today is most significant to the silk industry for the dyeing and finishing plants located in that district; these represent about 80% of the dyeing and finishing industry, and at this end assuredly the exhibition should be signally important.

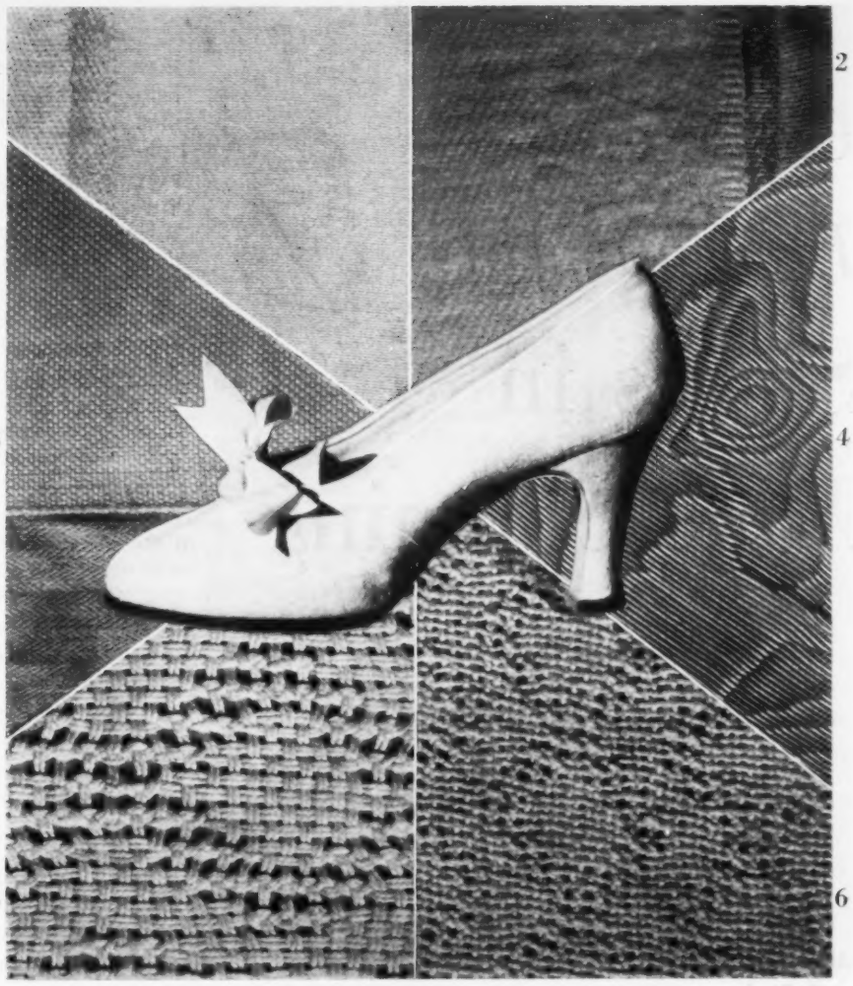


Plan for decorating Paterson Armory for Silk Show

Variety and Strength Are Key Words in Making

Cotton Shoe Fabrics

By Thomas Nelson



1. Three-layer fabric for evening shoes; 2. Light nap on back of fabric is beneficial; 3. Basket weave and coutil combination; 4. Silk moiré has pleasing appearance; 5. Open, two-cross-two leno; 6. Leno weave using finer yarns than fabric 5.

A SURVEY of the cotton fabrics used in the shoe industry is of particular interest because of the variety of fabrics employed for this purpose. Pleasing effects may be obtained in the production of the higher grades of shoes by careful selection of fabrics and by application of combinations of two or more different types.

Among the fabrics commonly used are sheetings, drills, twills, crepes, coutils, and lenos. Fig. 1 illustrates a plied fabric made by superimposing three different fabrics one upon the other. In this case the combination was designed for use on evening shoes and consists of an outer-layer of cotton crepe, a middle layer of a two-up-one-down drill, and a bottom layer of one-down-three-up twill. The last-mentioned fabric is given a light nap to impart a fuller feel to the combination and the three are then fastened together. Fig. 2 represents the reverse side of this fabric.

Plied Fabrics

A combination fabric consisting of a basket weave, backed with a coutil, is illustrated in Fig. 3. The coutil is an exceptionally well-made fabric and, when used in combination with other material, gives outstanding service. The basket-weave material, which, in this case, is made from mercerized yarns, contains a two-ply warp and a three-ply filling.

A fabric of interesting construction and attractive appearance is illustrated in Fig. 4. This is a silk moire, which has found extensive application in the shoe industry.

Leno Weaves

During the present summer season, leno fabrics have been very popular. A special make of leno, illustrated in Fig. 5, and known as "suva," has found much favor with the trade. Another piece of material having the same weave, but composed of finer yarns, is shown in Fig. 6. This illustration shows the fabric in the gray state, and its appearance will be considerably enhanced by the finishing operations during which it will be either bleached or dyed. In the construction of the fabric illustrated in Fig. 5, 2/2/12s yarn was used. In Fig. 6, 2/5s yarn was used.

In the construction of leno fabrics, the essential element is the doup. This is a heddle through which the "crossing ends" are drawn, and which causes the warp interlacing clearly shown in Fig. 5. It is generally necessary to have as many doups as there are weave changes in a fabric; and in this case, it would be necessary to have five sets of doups according to this rule. However, a new type of doup, known as a "super doup," has recently been developed, by the use of which, under certain conditions, it is possible to reduce the number of doups used. This doup has a slot in one side of the leg, which allows the threads to operate independently; and in this particular case it would have been possible, by means of this device, to construct the fabrics by using only one set of doups.

Cause and Prevention of Snarls in Mule Spinning

By George Hendricks

ALTHOUGH a snarl does not generally cause much trouble in the operation in which it is produced, it is often a great nuisance in subsequent processes. The operation of mule-spinning, especially, is one in which snarls are very likely to occur. It would be of advantage to every mule spinner to study closely the causes associated with the production of these defects and to take the necessary steps to remedy them. The fundamental cause of a snarl is the doubling back, due to a slack condition, of a twisted strand.

Mule-made snarls are usually produced during the unlocking of the fallers, or during the initial period of spinning, at the moment that the carriage commences to draw away from the roller beam. There is no reason why they should be produced in great number because, by clustering around the spindle point, they make themselves very conspicuous. Their formation is due to the fact that the amount of yarn liberated during the unlocking of the fallers is in excess of that required for winding and twisting purposes.

The following conditions are usually responsible for the existence of this excessive length: Too much yarn liberated during unlocking (caused either by insufficient winding or by too early unlocking); too few coils around the spindle; and bad piecings.

Other more common causes of snarled yarn made during unlocking are as follows: (1) During the early stages of cop formation the quadrant nut may be too high; this, in turn, is usually due to the governor motion being too sensitive. (2) Improper action of the nosing motion may impart insufficient winding revolutions to the spindles during the run-in of the carriage. (3) The moving upwards too quickly of the winding-faller shafts during unlocking, caused by too heavy tension on the springs, will result in insufficient winding revolutions being given to the spindle and in an insufficient number of coils being wound on the spindle. (4) A weak setting of the unlocking bracket or of the bootleg casting will create snarls during cop building when the carriage draws away from the rollers. The unlocking of the fallers is so arranged that a later unlocking takes place on each draw; this being to compensate for the approach of the winding point to the spindle tip.

When cops are nearly full, there is always the tendency for the yarn to be pulled from the spindle tips at the commencement of the outward run of the carriage. The setting of the spindles has its effect in this matter; spindles with too much taper or "bevel," or with their points set too far below the roller nip, or set too near the rollers will cause snarls to be produced over the entire length of the mule. In mules where levelling is necessary, one end may produce more snarls than the other.

The application of a carefully determined amount of "carriage gain" is often beneficial in preventing snarls.

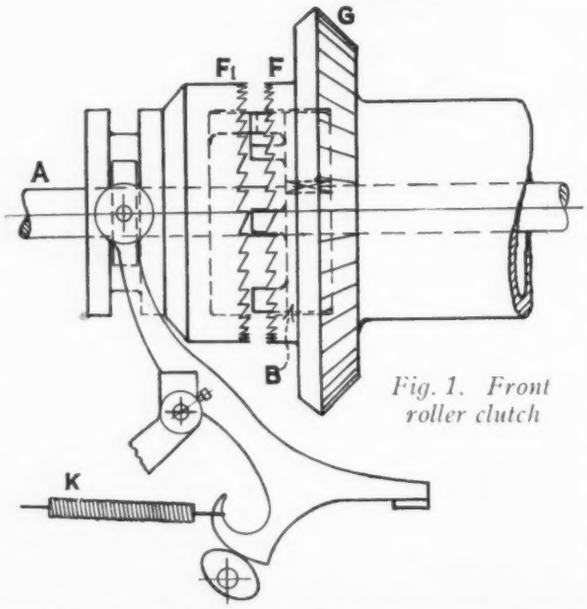


Fig. 1. Front roller clutch

Snarls are often made during backing-off, but they do not usually show when produced. Any variation in the length of yarn unwound from the spindles at this time will have a corresponding effect upon the amount of yarn to be rewound. Since, therefore, winding-on can deal only with a predetermined length, snarls will necessarily form in any extra lengths of yarn unwound during backing-off. When the carriage has reached the "out end," the counter-faller wire should be level with the points of the spindles. This permits the wire to operate on the yarn as soon as it is released by the reversal of the spindle. If snarls occur from an erroneous setting of this nature it is a serious matter, as from 700 to 800 ends are affected. The success of backing-off depends largely on the satisfactory working of the backing-off click. If the click spring is not in satisfactory working order and the click misses a few teeth or if the backing-off chain is too slack, the defect will very probably show itself.

Winding-on should take up the stretch, and the spindle revolutions should just meet this need. Too many revolutions result in yarn breakages, while too few mean possible snarl-making. This variation in winding may be caused in several ways. For example, a slack winding chain, either at the beginning or during winding-on, allows the spindle rotation to be delayed for a brief period during the inward run, with the result that the spindles will not make the required revolutions for winding, and thus allow a greater length of yarn to be liberated, the excess length forming snarls.

An effect similar to this is produced if the winding catch misses a few teeth. This may be caused by im-

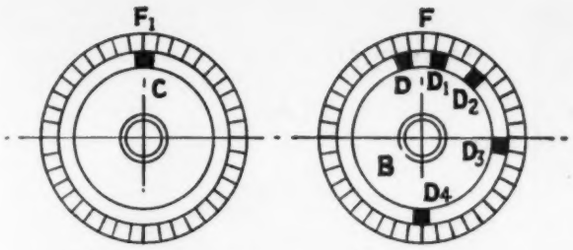


Fig. 2. Projecting pegs in clutch faces govern delay of front roll

proper action of the click spring; possibly due to oil coming in contact with the leather lining of the spring or to the spring being too slack or to the working surface of the leather becoming too smooth. The winding click needs to be kept in good order, or a similar defect is again made.

When quadrant bands are too slack, or in cases where badly-worn shaft-bevels are not renewed, the spindle may be momentarily stopped at the beginning of the inward run, and snarls formed as a result.

When the carriage reaches the back stops at the "gear end" to soon, snarls are caused in an indirect manner. When this occurs, there are usually broken ends at these places, and to remedy this defect the spinner will make an alteration in the winding in order to give a little slacker wind at the "gear end." This will result in very slack winding at the other portions of the mule. Snarls are frequently introduced into yarn by the method which operatives employ in "telephoning" to another person at the opposite end of the mule by pressing down and shaking one or the other of the winding wires.

There is a simple and effective snarl-prevention device which may be attached to mules. The object of this is to stretch out any snarls formed between the spindle point and the rollers during the faller re-engagement, which takes place at the end of the inward run of the carriage. Its principle of action is to cause just sufficient delay in the starting of the rollers to allow the slack to be taken up and to remove any snarls that may have already formed. As the degree of retardation necessarily will vary with the counts being spun and other factors; the device is constructed so as to allow, by simple adjustment, the retardation required by the material under treatment.

In Fig. I, *F* and *FI* constitute the two sides of the front-roller clutch, both being loose on the roller shaft *A*. *F* is compounded with bevel *G*, which, during the outward run of the carriage, receives its drive from the rim shaft. On roller shaft *A* is fastened a strong, solid disk *B* with projecting pegs set at varying distances, as indicated in Fig. 2, *D, DI, D2, D3, and D4*.

A peg *C* is part of the left-hand clutch *F1*. As the two parts of the clutch *F* and *F*1 are loose on shaft *A*, it is peg *C*, which, when the clutch is closed, forms connection with the fixed disc *B*, and when bevel *C* is revolving, effects the driving of the front rollers. The peg *C* may be set to work between any two of the pegs on the disk *B*.

A weighted spring *K*, the ends of which embrace the half clutch *F*, forms an important part in rendering the device effective. With the commencement of the inward run of the carriage, peg *C* presses against the foremost of the two pegs between which it is working and thus drives the rollers. This also brings the weight on the spring to its topmost position. When the clutch is opened at the end of the spinning period, the weight on the end of the spring will turn half-clutch *F* until peg *C* rests against the rear peg in the space in which it is operating. As the several pegs, *D* to *D*4 are progressively spaced, the distance between any two of the pegs will determine the degree of retardation of the front roller at the commencement of spinning.

Simple Moistening Device

Aids Manufacture of Waste Yarn

By James Knechtel
The Galt Knitting Co., Ltd.

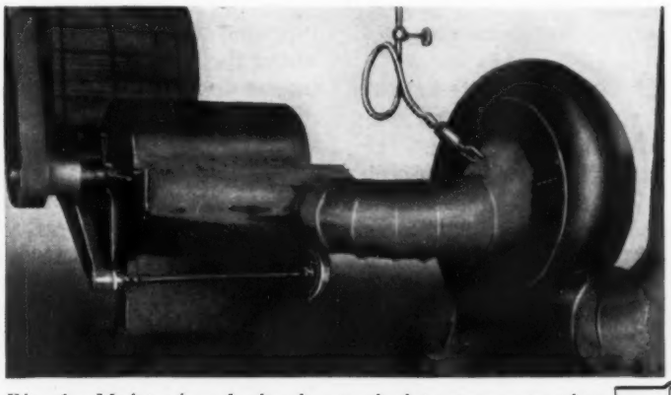


Fig. 1—Moistening device is attached to conveyor pipe

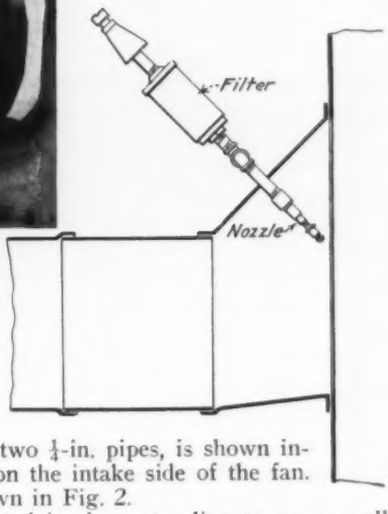
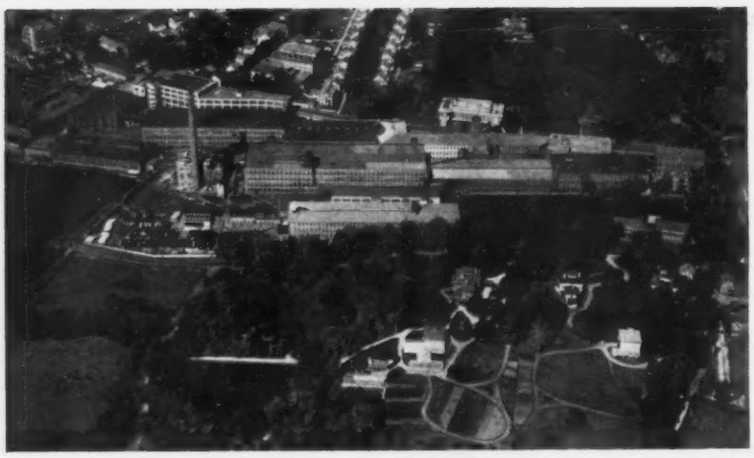


Fig. 2—Sectional view showing construction of apparatus

IN RUNNING cotton comber waste a number of mills have experienced difficulty in eliminating fly and in making a strong yarn. For some time the writer has made use of a simple, home-made device which enables him to secure a uniform moistening of the fibers. This device is suitable for the application of either plain water or oil emulsions. It permits utilization of the maximum percentage of comber waste, and aids in the production of yarn of good strength.

The accompanying illustrations portray the nature of the apparatus and indicate the point at wihch it is installed. Fig. 1 shows a mixing picker connected to a conveyor system, the purpose of which is to transport the cotton to the bins in the card room. The moistening device, consisting of a ½-in. hose connected to two ¼-in. pipes, is shown inserted in the pipe line on the intake side of the fan. A sectional view is shown in Fig. 2.

A cloth filter is inserted in the water line to remove all particles of dirt from the water, and the liquid is converted into a fine spray by two acetylene gas-burner tips attached to the ends of the ¼-in. pipes. Additional atomization and more uniform distribution of moisture on the stock are secured by the action of the fan.



Manufacturing plant and industrial village of Whitin Machine Works

John C. Whitin, founder and first president, 1830-1882

Whitin Completes First Century

Looks to Second

ANOTHER company allied with the textile industry has joined the group of those firms with an uninterrupted business history of 100 years. The Whitin Machine Works, Whitinsville, Mass., are celebrating that event this year. The company has marked this milestone in its progress by the preparation and publication of a brochure. The title of the booklet, "Looking Ahead Into the Second Hundred Years," reflects the attitude of the organization toward historical matters.

There is a touch of romance in the fact that the Whitin Machine Works trace back in their family tree, although indirectly, to what is now almost a defunct institution, the village smithy. When the war of 1812 broke out, one Paul Whitin was operating a blacksmith shop in the village which already bore his name. A side venture was a cotton mill, and in 1826 a son, John C. Whitin, invented the first picking machine. It was John C. Whitin who founded the business which has now passed the century mark. In 1831 he built a small plant which signalized the start of textile machinery manufacture under Whitin direction. The popularity of the picker was instant, and by 1847 what was then a complete machine shop had been built to house the expanding business.

And then diversification started. The success of the picker naturally led to the building of other machines, although for many years attention continued to be focused principally on cotton preparatory machinery. Among the earliest lines to be added were spinning and twisting. Openers, cards, and drawing, roving and combing machinery followed in order.

Along with the regular cotton preparatory machinery line, there has developed and grown up special machinery for utilizing cotton wastes and short staples of all kinds.

The next step was the entrance into the woolen machinery field in 1909. Woolen cards and tape condensers inaugurated this line. This branch of the business was broadened and improved with the purchase in 1929 of the Cashiko Machine Co., whose patents and experience proved valuable. The Whitin wool spinning frame is another important factor in the company's activities.

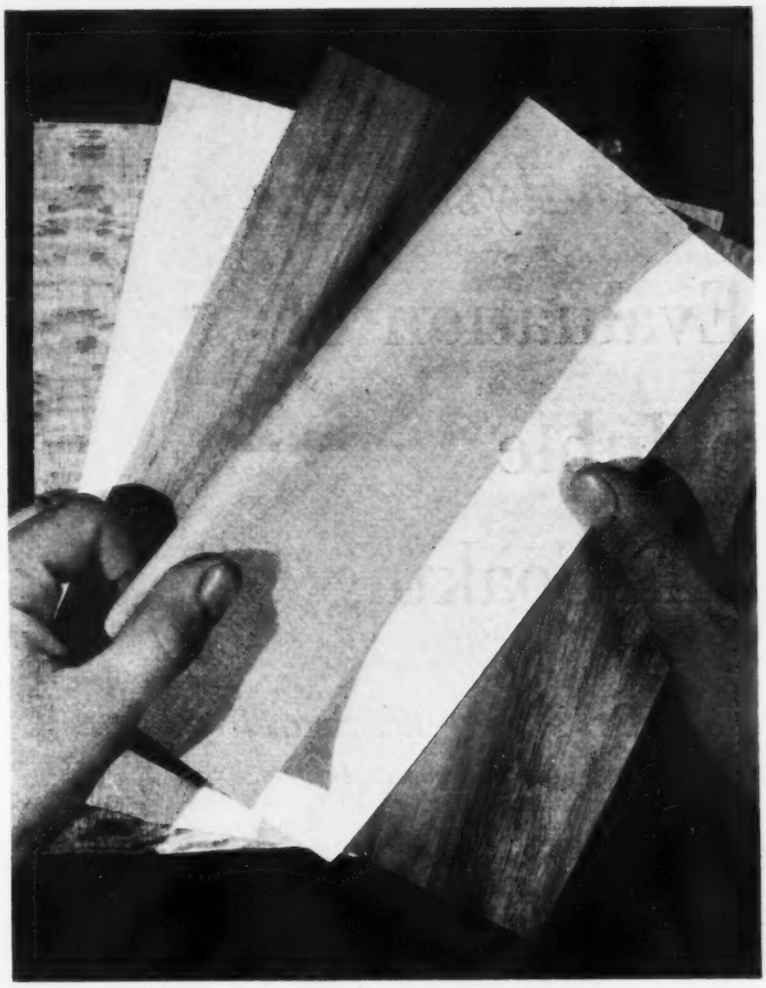
After the turn of the century, asbestos carding, spinning and twisting equipment was developed. Since 1920, under the direction of E. Kent Swift, Whitin expansion into all textile fields has been accelerated. Worsted spinning and twisting, both cap, ring and flyer systems, as well as cone and dandy roving were added. Machinery for spinning silk was also developed. The rayon impetus, with its challenge, resulted in the production of Whitin rayon machinery. Thus today, the company has complete, or nearly complete, lines of preparatory machinery for practically every form of textile.

It is significant that the company celebrated its hundredth anniversary by acquiring, at the end of last year, the Fales & Jenks Machine Co. of Pawtucket, R. I., and the Woonsocket Machine & Press Co. of Woonsocket, R. I. As announced in these columns at the time, there were thus added to the Whitin business two long-established organizations, one dating back to 1830 and the other to 1868.

The history of Whitin management has been the history of the Whitin family. John C. Whitin, the founder, was succeeded by his son-in-law, Josiah Lasell. Next came the latter's son-in-law, G. Marston Whitin, to be succeeded in turn by a son-in-law, E. Kent Swift, the present treasurer and general manager.

History is of value only as it bears upon the present and the future. The background of the Whitin organization, sketched very briefly above, offers assurance of its continued progress and diversification.

Cotton Backing Makes Possible New Veneer Wall Covering



A handful of Flexwood samples showing cotton backing; also demonstrating thinness and flexibility

Corner of Martin Cannon's office, Charlotte, N. C., showing application of Flexwood to walls, ceiling and doors

AMONG the recent developments in extending the uses for cotton is an attractive wood panelling, composed of a thin wood veneer backed by a cotton fabric, which can be applied to any surface such as plaster, wood, metal or wall-board. Martin Cannon, president, Davidson Cotton Mills and the Carolina Textile Corp., recently had the walls, ceiling and furniture of his office in Charlotte, N. C., covered with this new material, known as "Flexwood."

Armin Elmendorf developed and patented "Flexwood," after thorough experimentation, and because it is considerably less expensive than regular built-up wood panels for decorating walls and ceilings; those interested in the product feel that it has extensive market possibilities. The manufacturers, The Flexwood Co., 919 North Michigan Avė., Chicago, Ill., have furnished many homes and offices throughout the country, including the Chicago office of Cluett, Peabody & Co.; the Empire State Building, New York, and the new Charlotte (N. C.) Country Club.

Flexwood is applied to the wall or other surface over a sized wall lining cloth, thus requiring two layers of cotton fabric under the wood veneer itself. The material is not affected by changing temperature or moisture, while the special "flexing" process keeps the wood flat against the wall. The new wall covering is made in a variety of woods in strips 8 to 36 in. wide and 8 to 10 ft. long. It shows the natural grain to excellent advantage, as illustrated in the accompanying picture of Martin Cannon's office which is finished in walnut. Flexwood is also adaptable for the decoration of Pullman cars, motor buses, elevators, transport planes and other uses.

Simple Method of Analysis Aids

Evaluation of Soluble Silk-Soaking Oils

By George W. Searell

Kahn & Feldman, Inc., Brooklyn, N. Y.

INCREASED use of soluble soaking oils by silk throwsters has necessitated a simple and accurate method of evaluating these materials. It was formerly, and is now to some extent, common practice for a silk throwster to accept from an oil manufacturer a 5-gal. sample of a throwing oil, together with instructions for its use. He would soak perhaps 5 lb. of silk, throw it into a marketable yarn, and give it out to his customers for knitting or weaving purposes. This was an expensive and time-consuming process, since the throwster not only had to give away the silk, but also lost a great deal of time in finding out whether the oil was suitable. In order to overcome these objections, the writer has evolved a method for testing soluble silk-soaking oils which he believes will be of value to other users of these products.

The test is divided into two parts—an abbreviated laboratory procedure, and a complete analysis. The abbreviated procedure has resulted in worth-while savings in time and money, since it is not necessary to carry out the complete analysis if a sample fails to pass this test; and it has also proved satisfactory for checking the uniformity of shipments of an oil which has been found acceptable. If the results of the abbreviated procedure warrant it, the sample is then subjected to the complete analysis which is employed to valuate the oil.

Abbreviated Procedure

The abbreviated procedure is used to determine the following characteristics: (1) Appearance (turbidity and sediment); (2) Color; (3) Odor; (4) Acidity; (5) Alkalinity; (6) Stability; and (7) Emulsifying property.

Appearance, Color, and Odor—This test is to determine the color and odor of the sample and to detect any turbidity or sediment.

Procedure—These properties are determined by comparing the shipment with a standard sample.

Acidity—

Procedure—Ten grams of the sample is dissolved in neutral alcohol and titrated with standard caustic alkali, using phenolphthalein as an indicator. The result may be expressed as per cent oleic acid or as mg. KOH per gram.

$$\text{Free Acidity} = \frac{\text{c.c. NaOH} \times \text{Titre NaOH}}{\text{Sample}}$$

$$\text{Example:} \frac{10.6 \times 27.6}{10} = 29.2 \text{ mg. KOH}$$

Alkalinity—

Procedure—Twenty grams of the sample is dissolved in warm water and titrated with standard acid, using methyl orange as an indicator. Common salt and water may be added to facilitate noting of the end-point. The result may be expressed as per cent oleic acid-as-soap or mg. KOH per gram.

$$\text{Total Alkalinity — Mg. KOH per gram} = \frac{\text{c.c. HCl} \times \text{Titre HCl}}{\text{Sample}}$$

$$\text{Example:} \frac{8.4 \times 28.1}{20} = 11.8 \text{ mg. KOH}$$

Stability—

Procedure—A representative sample of the shipment is allowed to stand for 24 hr. or longer in a 4-oz. bottle and then is carefully examined for any separation. In winter, expose the sample to cold weather before making the test.

Emulsifying property—

Procedure—Five grams of the oil is thoroughly mixed with 95 c.c. of the water used in making up the soaking bath, and is allowed to stand for 24 hr. The emulsion is then carefully observed for any separation.

Complete Examination

If the foregoing tests indicate that the sample conforms with specifications for soluble silk-soaking oils, the complete examination is carried out. This analysis determines the following characteristics: (1) Water; (2) Saponification value of the sample; (3) Unsaponifiable matter and mineral oil; (4) Specific gravity at 15.5° C.; and (5) Ash.

The analysis is supplemented with the following tests: (1) Practical soaking test; and (2) Knitting tests made on low- and high-speed machines of various gauges.

Water—

Procedure—Fifteen grams of the oil is placed in the Pyrex Erlenmeyer flask of a Bidwell Sterling moisture tester, 100 c.c. of xylene is poured over the sample, and the oil thus dissolved. The apparatus is assembled, and distillation of the sample is started and carried out until no more water drops into the calibrated tube of the apparatus. The reading of calibrated tube gives directly the amount of moisture in the apparatus.

$$\text{Water per cent} \frac{\text{c.c.}}{H_2O} \times 100$$

$$\text{Example:} \frac{2.40 \text{ c.c.} \times 100}{15} = 16.0\%$$

Saponification value—

Procedure—From 1.5 to 2 grams of the sample is weighed into a 200-c.c. flask. Then 25 c.c. of a semi-normal solution of alcoholic potash is run in by means of a pipet. An air condenser is attached, and the whole heated slowly for ½ hr. on an electric hot plate, the contents of the flask being mixed from time to time by giving the flask a rotary motion. When saponification is complete, cool and add 100 c.c. previously neutralized alcohol and titrate with ½ N hydrochloric acid. A blank test is made at the same time. The difference between the number of the cubic centimeters of acid used in the blank test and the actual test corresponds to the quantity of potash required for saponification.

$$\text{Example} — \frac{(28.3 — 25)\ 28}{2.171} = 170 \text{ mg. KOH}$$

Unsaponifiable matter and mineral oil—

Procedure—Weigh 5 grams of the sample into a 250 c.c. Erlenmeyer flask and add 50 c.c. of 10% alcohol potash. Boil for 1 hr. using a reflux condenser. Cool and pour into separatory funnel, rinsing flask with 50 c.c. of pure sulfuric ether. and add to separatory funnel. Shake vigorously and allow to stand until liquids separate into two clear layers. Draw off bottom layer into the Erlenmeyer flask and transfer ether layer to another separatory funnel. Next pour water layer back into first funnel and repeat extraction with more ether. Wash ether extract with water three times until phenolphthalein will not give a pink color when added to the washings. Draw off liquid into a clean tared flask and evaporate on hot plate cautiously. Dry in an electric oven at 140° C. for ½ hr. cool and weigh. Weight equals unsaponifiable matter.

Specific gravity at 15.5° C.—

Procedure—A Westphal balance is employed for making this determination and the result adjusted to a temperature of 15.5° C.

Organically combined SO_3—This determination is carried out by the Hart method ("Analysis of Sulfonated Oils," R. Hart, *American Dyestuff Reporter,* Vol. XX, No. 8, p. 262, 1931).

Procedure—Ten grams of the sample is weighed into a 300-c.c. Erlenmeyer flask provided with a reflux condenser, and is boiled for 1 hr. with 25 c.c. of 1N sulfuric acid, using glass beads to prevent bumping, and shaking frequently. The condenser is washed into the flask, 30 grams of granulated salt and 100 c.c. of water are added, and the mixture is cooled; 20 c.c. of ether and methyl orange indicator are now added, and the contents are titrated with N/2 caustic soda. (The purpose of the salt and ether is to overcome the occasional difficulty of titrating a milky or turbid solution; the ether extracts the fat, and the salt solution causes a rapid separation of the layers, enabling the titration to be carried out in the lower water layer which remains clear.)

The organically combined SO_3 is calculated according to the following formula:

$$\text{Combined } SO_3 \text{ per cent} = \left[\frac{(\text{c.c. NaOH} \times \text{Titre NaOH} - 25 \times \text{Titre } H_2SO_4) + A}{\text{Sample}}\right] \frac{8}{56.1}$$

Where A = total alkalinity.

Example: Combined SO_3 =

$$\left[\frac{(51.0 \times 27.6 — 25 \times 56.3) + 11.8}{10.1}\right] \frac{8}{56.1} = 1.67\%$$

Ash—This determination is made by the A.L.C.A. method ("Analysis of Sulfonated Oils," A. H. Grimshaw, TEXTILE WORLD, March 14, 1931).

Procedure—Weigh 5 grams of the sample into a crucible. Ignite gently, allow the oil to burn, and complete incineration at a dull red heat until all carbon is consumed. Then cool and weigh.

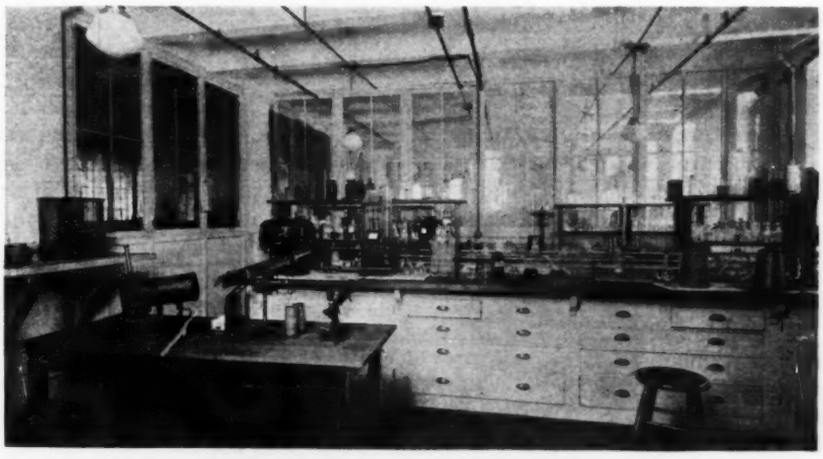
$$\text{Ash per cent} = \frac{\text{Wt. ash} \times 100}{\text{Sample}}$$

$$\text{Example: Ash} = \frac{.208 \times 100}{5.2} = 4.0\%$$

Practical soaking test—A practical soaking test is now made by soaking 2 lb. of silk at 80° F. in a formula equivalent to 18 lb. of soaking oil, a 60-gal. bath, and 100 lb. of silk. After the silk has been soaked the number of hours recommended by the oil manufacturer, it is hydro-extracted, conditioned, and thrown into a marketable yarn. When this test is carried out, a standard type of soaking is run in parallel, and the sample checked against the standard for quality, ease of throwing operations, and waste.

Knitting test—The thrown silk is now prepared for knitting by conditioning samples in each of the following systems: (1) Backwinding, (2) Conditioning room, (3) Dipping, (4) Pressure soaking, (5) Heaters, (6) Hygroscopic treatment; and (7) Running direct ("Conditioning Hosiery Yarns," D. S. Chamberlain, *Melliand,* April, 1931.)

The conditioned cones are next placed on knitting machines and few sets of legs are run off from each cone; these are examined, and judgment is passed by a thoroughly experienced knitter as to whether the yarn has given a satisfactory result. In this way a complete record can be made of the action of the soluble silk-soaking oil.



View in chemical laboratory designed for textile work

Microscope Is Valuable Asset

To Textile Manufacturer and Finisher

By Edward R. Schwarz
S.B., A.T.I.

Article XIII—(Continued)—"Don't Be Afraid of the Microscope" Series

◆ *In the first installment of this article Professor Schwarz outlined the use of the microscope in the analysis and synthesis of woven fabrics and knit goods. He now continues with a discussion of its value in the manufacture, finishing, and testing of various textiles.*

WHENEVER there is present in the fabrics under examination more than one type of fiber having visible differences of structure, the microscope makes possible easy and rapid identification of each. If yarns are removed from the cloth, partially untwisted, and the resulting fiber bundles cross-sectioned, the actual number of fibers of each kind can be counted. Chemical determinations which depend upon the selective solvent action of the reagent upon the fiber mixture, often are inaccurate because of partial dissolution of the fiber it is desired to retain.

In the treatment of a mixed wool and cotton fabric, for instance, certain specifications for the chemical test call for an allowance of several per cent and, since this percentage is recognized as a variable quantity, the determination, however carefully carried out, must be in error on this account. Not only is this the case, but in many instances, no selective action is conveniently possible. The fibers may be too nearly alike chemically to be separated by this means.

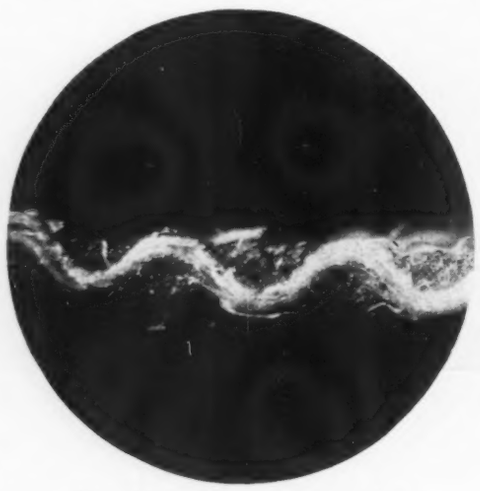


Fig. 11. Fabric cross-section showing crimp

Another consideration is that of the varying density of the different fibers. Silk and rayon, for instance, are quite different in this respect. Rayon has a much higher density than has silk. Thus, in a mixture of equal weights of each—which would, by chemical analysis, be called a 50–50 combination—there will actually be either a greater volume or number of silk filaments present than of rayon. After all, the physical properties of the yarn depend more upon the number of fibers present, or the relative amount of space occupied by each, than upon their weight. The latter scheme of measurement has probably come about because purchase and frequently sale of the materials involved has been conducted on a weight basis. With an increasing interest in fabric properties, as such, or as may be required to meet specifications, the analysis on a volumetric basis, as given by the microscope, will be of great importance. Given the density of the fiber involved—determined microscopically as will be described later in this series—the volumes may be mathematically converted into weights. See also an article by the author in *The Melliand*, Vol. 12, No. 1.

Micro-Determinations More Reliable

At the same time that the foregoing determinations are in process, much information may be derived as to the quality of the fiber involved, the compactness of the yarn, etc. The micro-determinations require less time usually than the chemical test, and are far more reliable than colorimetric tests alone. The latter are not to be wholly disparaged; but, in many cases, insufficient information is available as to time, temperature, concentrations, and so on, for them to be employed. Color itself is difficult to interpret where shades of a given hue must be compared. Of course, in the case of fibers which are already colored, these methods are either useless or of doubtful value. In any case, when color reactions on fibers are involved, it will be found very desirable to make the treatments and comparisons under carefully controlled conditions of light under the microscope. Micro-chemical technique, as well as micro-physical procedure, has its place in textile analysis. For much worthwhile information in this field, the reader is referred to Vol. I, of the "Handbook of Chemical Microscopy," by Chamot and Mason. With his present knowledge of the specialized field of textiles as outlined in this series of articles in TEXTILE WORLD, the reader will find the application of the general methods outlined in the handbook to be simple. The author has already noted that consideration of the uses of microscopy in chemistry had an important bearing upon the selection of the type of stand for the textile microscope. The excellent work done by Dr. Chamot is here acknowledged.

Fabric Structure

Many textile workers have speculated at length upon the proper structure for fabrics from the standpoint of spacing or set. It is very important for the success of the weave design that the yarns shall be arranged correctly and shall be so selected that the pattern will not be distorted. Thus data as to yarn diameters, densities, and

Spencer Lens Co.

Fig. 13. Fabric analyzing projector

E. Leitz

Fig. 14. Three opaque projectors for fabric and yarn

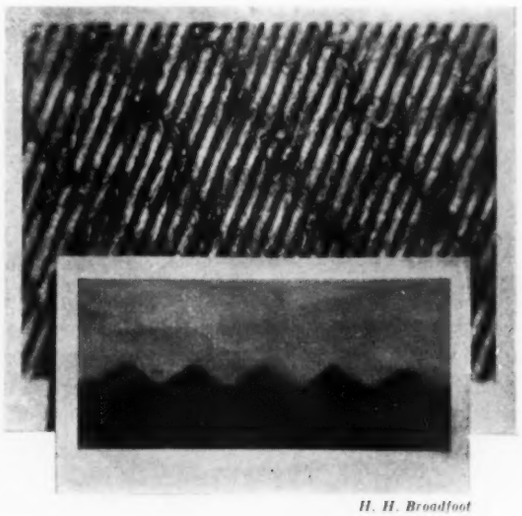
sectional shape must be known. There is no need to guess at these quantities when they can all be measured.

It will be seldom that a loom, for example, can be set correctly the first time on a wholly new pattern and structure. It is good practice to estimate as closely as possible what the setting should be. To make an intelligent estimate, facts and not suppositions must be available. Once some fabric has been woven, however, there is present immediately a number of additional facts upon which to base a revised estimate. Instead of noting that the weave does not appear as it was desired to have it, it is only simple efficiency to look at the poor fabric in cross-section and see what the trouble is. Not only can the difficulty be seen, in the majority of cases, but it can be measured as well. Obviously, it is not enough simply to know that a correction is needed. The essential information is how much and in what direction must the correction be made.

A number of workers have been engaged at some time or other in the study of crimp determination. No one doubts the importance of finding the actual length of yarn which must be employed in order to produce a given length or width of fabric. Nor is there much doubt of the value of determinations of the per cent "off square" for a mechanical fabric.

Following work done by E. D. Walen, then of the U. S. Bureau of Standards, Washington, D. C., a number of studies leading to mechanical methods of crimp determination have been conducted —many of them at the Textile Laboratory of the Massachusetts Institute of Technology, by students pursuing thesis work. Some of the progress in this line is given in an article by Prof. G. B. Haven (TEXTILE WORLD, Dec. 27, 1930) where a device designed by Parmakian E. Carideo, as a thesis, is described.

All methods of this sort, so far devised, are subject to the arbitrary definition of crimp based upon a length of yarn when the latter is straightened, but not stretched. To determine when this condition is reached, certain assumptions as to the elastic behavior of the yarn must be made, and in every case the yarn must be removed from the fabric. All this is obviated if examination is made of a cross-section of the cloth (Fig. 11). A camera-lucida sketch of the path of the yarn, the crimp of which it is desired to measure, may be made. A piece of fine, soft wire may then be bent to conform to the path, and finally straightened and measured. This dimension when compared properly with the distance between gaged points in the section will yield the real value of the crimp. The time consumed for a reasonable number of such tests—from which an average of any desired precision may be obtained—is no greater than that required for a single crimp test by the present method of comparing or plotting load-elongation readings. It must also be remembered that with the old method all the information one has is a value for crimp of perhaps doubtful precision, while in the new the value of crimp is only one of a number of facts regarding the fabric which can be recorded. Fabric thickness, weave, yarn composition, yarn shape, set, etc., can also be measured at the same time, with distinct saving in time and effort.

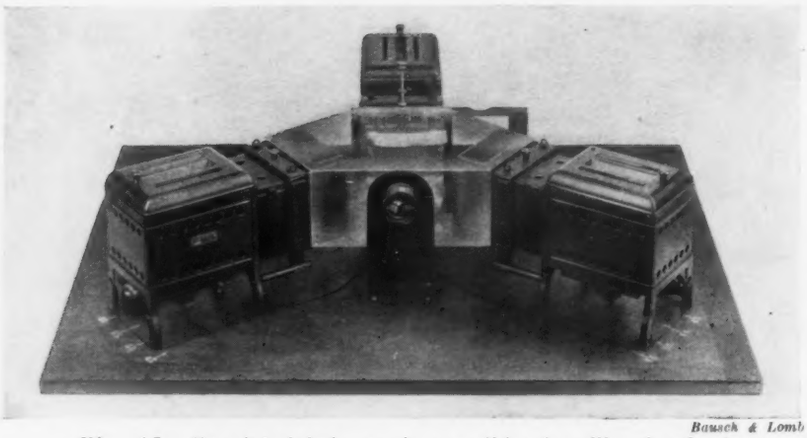


H. H. Broadfoot

Fig. 12. Schreinered fabric (with cross-section); 23° angle, 230 lines per inch

Finishing Problems

No one at all conversant with textiles can for a moment consider the question of finishing fabrics anything but extremely



Bausch & Lomb

Fig. 15. Special fabric projector (bi-color illumination)

vital. Particularly with woolens and worsteds is this true. But if the reader is in agreement with this statement, how much more must he grant that probably no branch of the industry is so lacking in satisfactory application of the scientific method. A really scientific study of felting, fulling, and milling is still to be made. When representative members of the industry were approached by the recently organized United States Institute for Textile Research for advice as to what were the most pressing problems, the returns left no doubt but that the study of felting, shrinkage, and finishing was felt to be imperative. Numerous workers have investigated these processes to the limit of their abilities or resources, and some valuable data have been obtained. Almost every worker in this field mentions microscopic examination of the materials involved, but very few can boast of having carried out such work themselves. With the improved instruments and technique now available, this subject should command immediate attention. It will be obvious that, since the surface appearance of the goods in many cases is of first importance, optical examination of it is necessary for any intelligent study. Continuation of the work already in progress and designed to show the effects of heat and chemicals on wool will require the extended use of microscopical equipment.

Coated fabrics, too, demand optical study—particularly in cross-section. The results of calendering are also of importance as is the investigation of schrenering (Fig. 12), printing, singeing, bleaching, dyeing, and shearing. It is not necessary to go into detail as to the technique involved. This will be apparent in any given case and will require modification as circumstances may demand.

Equipment for the production of enlarged images of a fabric sample is available. The apparatus may be suited to the projection of silhouettes (Fig. 13), for indicating yarn spacing and fabric structure, or for examining opaque materials (Fig. 14). For fabrics, it is necessary that the device be well ventilated in order to prevent damage to the goods.

It has been found that for the study of surface and structure, a combination of transmitted and reflected light of contrasting colors gives good results. Arrangement of standard equipment for the production of such an effect can be made quite easily (Fig. 15).

Projection of Images

Where the silhouette type of projection is used, a scale can be drawn on the screen or arranged on glass for simultaneous projection with the fabric, so that intersections or loops per square inch (or other unit area), yarns per inch, imperfections per unit area, etc., may be counted. Inspection of wool tops for neps can be easily carried out. Again, for light fabrics, such as gauzes, a sample of cloth which is considered of ideal uniformity of structure may be mounted in the projector. The goods to be examined may then be passed across and very nearly in contact with it, and the symmetry of the resulting diffraction patterns may be studied (Fig. 16). Irregularities in the spacing of the yarns composing the fabric will cause variations in this pattern in a fashion similar to that shown by the use of the lunometer. It is also possible to project the lunometer scale through the fabric—if the latter is of light construction—and read rapidly as the fabric passes through the instrument the changes in yarns per inch as they occur.

Application of the microscope and its accessory equipment to the study of imperfections of fabric structure is evident (Fig. 17). It would be a long and difficult task to cover such work in detail. The literature dealing with textiles continues to present novel and interesting instances (Fig. 18). One has only to read such a book as "Textile Fabrics," by Geo. H. Johnson, or to glance through the advertising pages of any current textile periodical to find examples of such use. What needs particular emphasis is not the fact that the microscope is being used increasingly for this class of work; but that its successful utilization depends upon the judgment and experience of the observer. There is no peculiar magic about the apparatus involved in the examination. The instruments will not of themselves disclose the source of the difficulty. Only an operator possessed of skill, precise understanding of his equipment and technique, and broad knowledge of the circumstances surrounding and involved in the production or use of the sample can hope for consistent success in this line.

Testing Fabrics

The proper manufacture of fabric is only one-half of the story. The determination of the effects of use and of abuse of the resulting product must also be consid-

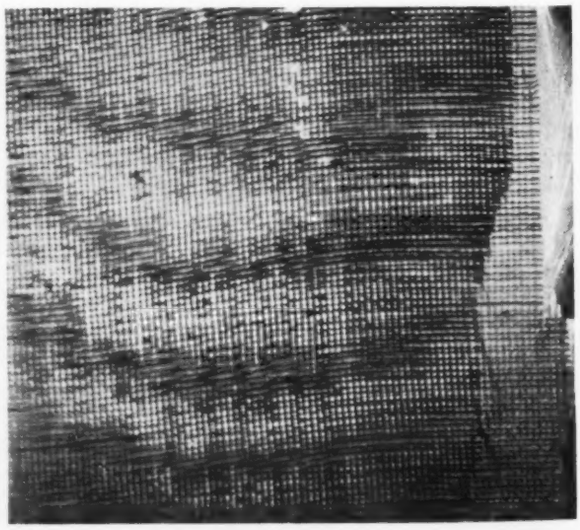


Fig. 16. Diffraction bands as seen in fabric comparison by the silhouette method

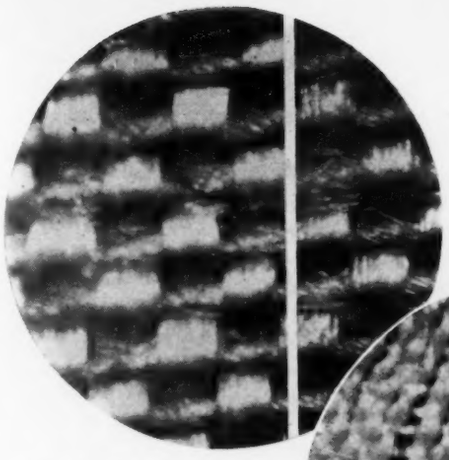


Fig. 18. Difference in luster in rayon fabrics (left-uniform; right-glint)

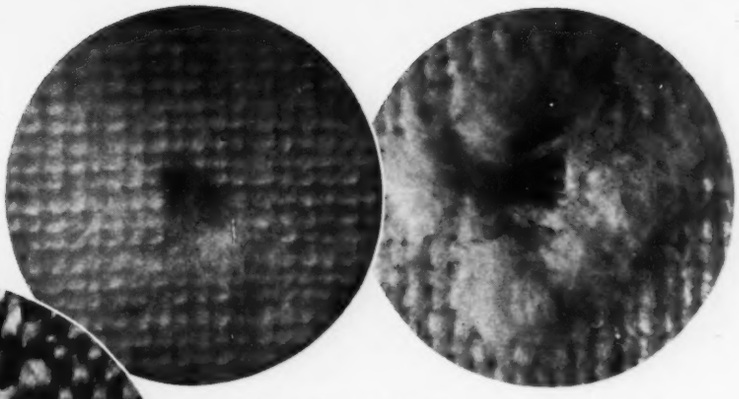


Fig. 17. Knot in cotton sheet and hole resulting from abrasion of same

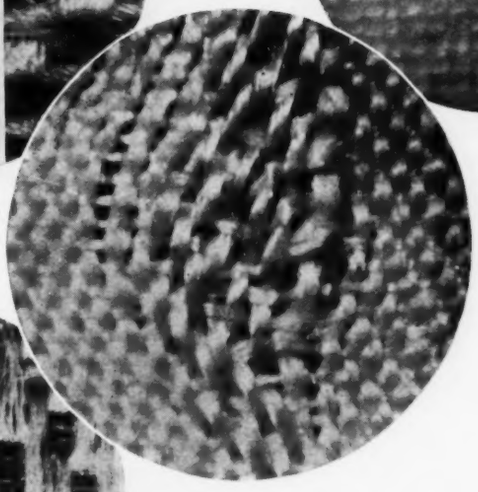


Fig. 19. Initial stages of rupture in test specimen

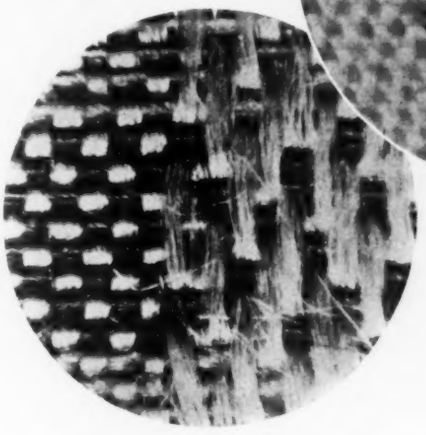


Fig. 20. Results of abrasion on long rayon floats, contrasted with appearance of plain weave

Fig. 21. Surface of emery cloth used as an abradant on cotton fabric

ered. No single method of test will prove adequate for the tremendous range of work that falls within this classification. The microscope, however, will contribute a large share to the probability of a correct diagnosis. It should be employed as a matter of routine. Often the least expected means proves to be the solution of the problem. Anything which will show the conditions as they exist must be of assistance. When, in addition, the device will so enlarge and define details, otherwise too minute for detection, as to make them stand out with clarity and precision, it is an instrument to be valued and to be employed. The microscope in competent hands will do all this and more.

Supplement Physical Tests

A field of service much negelected in the past is the use of microscopic apparatus to supplement the usual complement of equipment for carrying out physical tests on fabrics. Far too little is known regarding the types of rupture which are found in test specimens, (Fig. 19). No abrasion test can be considered complete unless the condition of the surface of both the fabric and the abradant are examined through the microscope (Figs. 20 and 21), the former to see the extent and nature of the resulting damage, the latter to be certain that clogging or alteration of the surface has not taken place during the test. The quantitative determinations as to analysis of the removed fragments of fiber, coating, and what not, and as to fabric thickness, yarn cutting, etc., will be apparent.

Any fabric analysis involves the study of yarn and of fiber structure as well. The former has been outlined in a previous article. The discussion of the latter is to follow. We have been concerned in the foregoing with the product of certain manufacturing operations, and the results of service, or of test. If we should stop here, the study would be incomplete. The full benefit of microscopic examination of fabric will not be realized until the facts obtained in analyses are studied and adapted to the synthesis of fabrics. It is not enough simply to dissect and study a fabric. Recognition of the opportunities for new and improved design and construction is important, and in this field, the use of the microscope will perpetuate itself.

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Article I, "Possibilities of Microscope in Textile Industry," April 27, 1929; Article II, "Types of Microscope Applicable to Textile Industry," May 18; Article III, "Handling the Miscrocope with Efficiency and Understanding," June 22 and June 29; Article IV, "Methods of Illumination," Aug. 17; Article V, "Useful Accessory Equipment," Sept. 21; Article VI, "Textile Micrometry," Oct. 26; Article VII, "Mounting Textile Specimens," Dec. 14 and Dec. 21, 1929; Article VIII, "Preparing Cross-Sections of Textiles," Jan. 18 and Feb. 15, 1930; Article IX, "Recording Data," May 24 and May 31; Article X, "Photomicrographic Apparatus," Aug. 16 and Aug. 23; Article XI, "Photomicrographic Technique," Dec. 20, 1930, Jan. 24 and Feb. 28, 1931; Article XII, "Microanalysis of Yarns," April 18, May 23 and June 27; "Microanalysis of Fabrics," July 25.

Improving Electrical Service

in Silk Hosiery Mill

By Francis A. Westbrook
M. E.

THE electrical load of a typical modern hosiery mill with motor-driven knitting machines is subject to rapid fluctuations which call for special treatment. If these service conditions are not properly cared for, trouble results. The remedy, however, is simple.

In a large hosiery mill in Philadelphia it was possible to make a substantial saving in the power bill, and in addition, to increase the electrical load on the power feeders, which before the remedy was applied, were already so heavily loaded as to be in danger of overheating.

To give a clear conception of what was done, it is necessary to set forth conditions prior to the application of remedial measures. The motors originally in use are listed in Table I. It will be noted that there were 55 motors, having a total of 117 hp. These were all two-phase, 60-cycle, 220-volt, squirrel-cage motors.

Current was distributed by eight 300,000-c.m. rubber-insulated cables to the two mills in which the equipment was housed. Due to the mechanical character of knitting machines, the electrical load varies in a rapidly recurring cycle 50 to 60 times a minute, within a range of 30% overload to no-load. This, of course, has an adverse effect on the power factor, which it was calculated, was not in excess of 54%. As a result of these conditions, the feeders were heating badly and approaching the danger point. Fuses frequently blew when the knitting motors were started up, and the contactors of the starters chattered and arched. Another difficulty occurred when knitting the heels of stockings, when the speed had to be cut in half, and the motors frequently stalled.

These conditions were aggravated by the fact that the growth of production called for an increase in load which meant that additional power feeders would have to be installed. In addition to this, the power company was about to charge for low power factor.

It was realized that the installation of static condensers would correct the difficulty, and at first, the method of group correction at the metering point was considered. This, however, would not relieve the feeders; and for this reason it was decided that the condensers should be installed at each motor operating at low power factor.

A slight rearrangement of the motors was made and condensers supplied by the National Electric Condenser Co. were installed on most of the motors. The equipment now in use is listed in Table II. The number of motors has been increased to 89, having a total of 167½ hp., and the total condenser capacity is 90½ kva.

With this arrangement, actual tests showed the power factor to be 91.8%; the feeders, in spite of the increased load, no longer heated up; fuses rarely blew when the knitting machines were started; and the motors practically never stalled. When the power factor on this load is above 90%, the power company bills the actual demand recorded each month; but when the power factor is below 90%, a penalty is incurred. Thus, with a typical month's consumption amounting to 22,431 kw.-hr., and with a measured demand of 134.4 kw. at a power factor of 91.8%, only the actual demand is billed according to the regular rates. However, with a power factor of 54%, which it was calculated would have been the case without condensers, the month's power bill would have been 57% greater. Deducting the annual charges on the condenser equipment, the net saving was found to be equivalent to a return on the investment of 25.3%. There should also be taken into consideration the increased load which could be carried without installing new feeders and the generally improved operating conditions.

After these changes had been made in the two mills owned by the company, a third mill was added and equipped with individually motorized knitting machines. As a result of the satisfactory experience with static condensers in the two original mills, the motors in the new mill were equipped with condensers when the machinery was installed, without waiting for trouble to develop. This has brought the total condenser capacity up to 168 kva.

An interesting test was made by the power company on one of the motors equipped with condensers in the new mill to determine, with accuracy, the operating conditions. The motor tested was a 2-hp., two-phase, 60-cycle, 220-volt, 1200-r.p.m., induction motor driving a 42-gauge, 24-section full-fashioned knitting machine. This machine was knitting a 30-in. stocking having 50 courses per in. of No. 5 all-silk thread and a 4-in. cotton-backing welt. During one complete operating cycle, with the machine knitting 24 stockings at its maximum speed of 62 courses per min., the power factor was 98.8% and the power consumption per 100 stockings, 3.2 kw.-hr.

Table I—Motors Originally in Use

No. of Motors	Hp.	Equipment Driven	No. of Motors	Hp.	Equipment Driven
1	1½	Group of loopers	2	1½	24 seamers
1	3	Machine Shop	1	15	Group of 28 f.f. machines
8	1	Winders	4	1½	4 single f. f. machines
1	1½	Exhaust fan	1	20	Group of 40 f. f. machines
1	1.9	Whizzer	1	5	Elevator
1	2	Whizzer	11	1½	Single f. f. machines
2	2	2 pumps	20	1½	20 single f. f. machines.

Table II—Motors and Condensers After Revamping Equipment

No. of Motors	Hp.	Equipment Driven	Condensers
1	1.9	Whizzer	
1	2	Whizzer	
1	3	Machine shop	
8	1	Winders	4 kva.
1	1½	Loopers	1 kva.
2	1½	28 seamers	1 kva. per motor
1	1½	30 Loopers	
1	15	Group of 23 f. f. machines	7 kva.
12	1½	12 individual f. f. machines	½ kva. per motor
1	20	Group of 28 f. f. machines	8 kva.
1	5	Elevator	2 kva.
12	1½	12 individual f. f. machines	½ kva. per motor
11	1½	11 individual f. f. machines	½ kva. per motor
12	1½	12 individual f. f. machines	½ kva. per motor
20	1½	20 individual f. f. machines	½ kva. per motor
4	1½	4 individual f. f. machines	½ kva. per motor

Correct Lubricating Practice Minimizes Danger of Oil Stains *on Piece Goods*

By George Hendricks

◆ *Careful choice of products and methods for lubricating looms and other equipment is an important factor in preventing oil spots on piece goods. Although the accompanying article was written from the viewpoint of a manufacturer of woolens and worsteds, many of the suggestions are applicable also in cotton manufacturing and other branches of the textile industry.*

OIL stains are a constant menace to manufacturers of woolen and worsted piece goods. In the case of goods which are intended to be put into white, cream, or other light shades, the damage may be particularly serious. There are, however, certain steps which can be taken to minimize the danger of oil stains, and to eliminate them if they occur.

Oil stains may be a source of trouble in two ways. First, the oil itself, if unsaponifiable, will be but slightly removed by the ordinary scouring processes. This means that the piece will go through the dyeing operation with the stain left in. It is impossible under such conditions for the oil-stained portion of the cloth to receive the same amount of dye or to be dyed the same shade as the remainder of the fabric. The result is that in all probability the stained place will show up more or less distinctly in the dyed and finished piece.

Secondly, the stain may consist largely of metallic deposit brought down with the oil from a dirty bearing. This metal, in very finely divided state, is carried by the oil into the heart of the fabric and is difficult to dislodge. The oil may be such that it can be removed easily by the scouring process, but the metallic stain may remain.

In many cases oil stains are caused by excessive oiling of the loom or of other machinery, or by the use of the wrong type of lubricant. Again, few bearings can be considered perfectly oil-retaining for any length of time. This is all too true of the bearings in a loom, particularly those of the crankshaft, so often the origin of stains. The picking mechanism too is responsible for oil staining.

So-called stainless oils are used by many manufacturers. While some of these products have obvious merits, it will be seen that they have little advantage over the oil which is not stainless if they carry a quantity of dirty deposit from a bearing onto the fabric. Hence, as a rule, the employment of one of these oils allows no greater laxity or carelessness on the part of the overseer.

The word stainless to many people is a sort of assurance that all will be well if an oil so termed is used. Exactly what is implied by designating a particular oil as stainless should be ascertained when purchasing the oil. A machine oil to be classified as stainless should be of such composition that it may be removed from a fabric in the ordinary scouring process. That is to say, it must be readily saponifiable or emulsifiable.

A fixed oil which oxidizes readily and increases in viscosity as oxidation takes place is unsuitable for use as a lubricant. While mineral oils by reason of their chemical constitution are unsaponifiable, when mixed in the proper proportion with a fixed oil, they emulsify without difficulty. There is considerable difference of opinion as to the amount of mineral oil which may be added to a fixed oil without seriously reducing the emulsifying property of the blend. It is usually considered that for loom use a blended oil should have a viscosity about three times as great as has sperm oil. At the same time, the oil should be readily emulsifiable.

In recent years special non-fluid products have been developed; and these, when properly selected and applied, will go far in preventing oil spots.

If, in spite of precautions, oil spots occur, efforts should be made to remove them as quickly as possible. It has been found that, as a rule, the longer a stain is allowed to soak into a fabric, the greater the difficulty in removing it. Often the application of saponifiable oil to the stain will aid materially in its final removal from the fabric. Thus when a stain is first noticed, it is recommended that a drop or two of some fixed oil, such as lard oil or neatsfoot oil, be applied immediately. In this way a mineral oil often will be converted into a more emulsifiable compound which can be scoured out later without difficulty.

If white or cream-colored goods are being dealt with, it is well to remove the stain before scouring. This is usually effected by spotting with benzine or carbon tetrachloride, in which oil completely dissolves. With some goods, a useful solvent is an alcoholic soap solution containing 10% each of soap and alcohol and 80% of water. Another compound commonly employed is a solution containing 20% each of soft soap and glycerin and 60% of water. The stain should be treated with either of these solutions, then washed thoroughly.

If, after the removal of the oil and dirt, a metallic deposit remains, great care is required in dealing with it. Iron stains are generally removed by using oxalic acid or a 10% solution of hydrochloric acid. If hydrochloric acid is used, the chemically pure product, and not the commercial acid, which contains a large amount of iron in solution, should be employed. The same acid solution will remove copper stains. After this treatment, the fabric should be well rinsed of all traces of acid.

Efforts should always be made to trace the cause of oil stains. Close examination of the stains may show that they have not been caused at the loom. It may be found that they are already on the warp or filling as delivered by the spinner; or it may be discovered that the staining has occurred since delivery of the gray piece.

Full-Fashioned Hosiery Stock Totals 3,800,000 Doz.; Output Cut 15%

A REDUCTION of about 15% in full-fashioned hosiery production occurred during the first half of 1931, which has helped materially to improve the position of that industry, according to a report made public this week by the Industrial Research Department, Wharton School of Finance and Commerce, University of Pennsylvania. The report gives the findings of an analysis of full-fashioned stocks made by the university body in cooperation with the National Association of Hosiery and Underwear Manufacturers.

The report is based on detailed information covering 3,431,251 doz. pairs of hosiery, which is approximately 90% of the total stock held at the mills and upon monthly hosiery data furnished by the Department of Commerce. The following abstract gives the summary and conclusions on the full-fashioned stock situation. A more detailed story of the survey and its results will appear in a later issue of TEXTILE WORLD:

"The total stock on hand June 30, can be estimated at between 3,800,000 and 3,900,000 dozen pairs. Of this total the detailed survey made by the Industrial Research Department included more than 3,400,000 dozen pairs. Two separate computations based upon different data were utilized to secure a measure of decreases in stock from Jan. 1 to June 30. One indicated a decline in stocks of 7.4%, the other, a decrease of 9.2%. Since the end of February, 1930, there has been a general decline in stocks. The rate of decrease during the first six months of 1931 was not greatly different from that which typified the earlier stages of the stock deflation. It should, however, be noted that a check occurred in this decrease of stocks during June when the total of stocks on hand was practically unchanged as compared with the May 30 figure.

"Production of fashioned hosiery for the first six months of 1930 did not decrease materially over the same period in 1929, although orders booked (and shipments) did decline. However, in the first half of 1931, production decreased about 15% over 1930 while orders remained fairly stationary. The comparative stability of orders booked in the first six months of 1930 and 1931 may indicate the effect of lower prices or the relative stability of full-fashioned hosiery demand.

"From Jan. 1 to June 30, 1931, certain qualitative changes in stocks have been noted. Stocks of 39-gauge hosiery decreased while 45-gauge stocks increased in absolute amounts and as percentages of the total stock. Tram silk stocks decreased 36%, while the amount of hard twist silk hosiery in stock increased more than 80%. Stated in percentages of total stock, tram decreased from 64.8% to 43.8, while hard twist increased from 26% to 49.3%. Obsolete and irregular stock decreased 31.3%. While these sub-standard groups were 12.1% of total stock in January, they represented but 9.1% of the June stock. Most significant of the detailed analysis of obsolete and irregulars was the decline in percentage of these numbers to total 45-gauge stock from 13.8% to 8.8%.

"Unfilled orders showed little change from January to June as a percentage of total stocks, this ratio being 28.3% in June.

"In June, 1931, mesh hosiery production was equivalent to 7.2% of total production. During June, 1931, the full-fashioned hosiery industry operated at about 66.9% of capacity.

"During the first six months of 1931 the stock position of the industry was improved more by the changes that occurred in the type of stock than by the quantitative decrease. The importance of the decrease in total stocks, however, should not be minimized. While the decline since February, 1930, has been at a fairly constant rate, its check in June should not be overlooked. Particularly is that important in view of the restricted production schedules that prevailed during June."

▸ Jacquard Mills Chief Strike Problem in Paterson

With many settlements effected in the silk strike in the Paterson, N. J., district, the jacquard mills became the main problem of conciliators this week. The committee appointed by the mayor of Paterson to hear both sides arranged a meeting for Tuesday and when the jacquard manufacturers failed to appear, Dr. Andrew F. McBride, chairman, announced that no further meetings or peace efforts would be made unless one side or the other requested it and presented a concrete plan of settlement.

The strike settlement committee announced Tuesday that an adjustment had been made with the John Hollbach Co., by means of which wages would be increased; the 150 workers in that plant will return to work shortly. Union officials were confident that the strike was nearing an end; they asserted that numerous settlements were pending and they looked for an adjustment of most of the industry, excepting perhaps the jacquard group, within the next ten days.

▸ Silk Throwsters Hold Annual Outing

Silk throwsters cast aside their business problems and made merry last Saturday on the occasion of the annual outing of the Commission Throwsters' Division of the Silk Association of America, Inc., which was held at Linden Court, Sciota, Pa. The affair was attended by members of the Danville, Lehigh Valley, Paterson, Scranton and Wilkes-Barre divisions of the unit, numbering about 75 in all. The event was strictly social, and speeches were barred. After luncheon, the throwsters enjoyed golf at a nearby course.

▸ More Plans to Help Southern Cotton Farmers

Along with helping out the southern farmer, many of the proposals that are being sent to Washington suggesting plans for cotton reductions seek to render incidental aid to the textile industry. One proposal recently sent to the Government by a prominent cotton broker contemplates the conversion of Farm Board cotton into yarn. According to this plan the cotton mills would be induced to do the spinning at cost. It is claimed that they would benefit by being able to operate full-time.

It would require $2,000,000 for the Farm Board to convert its cotton into yarn, even though the mills agreed to do the work at cost. It is an open question whether or not it would be any better for the Board to haul yarn than cotton. At any rate, it is not believed that any such action of the Board is imminent. Meanwhile, similar proposals continue to be received. From Memphis comes the suggestion that Farm Board cotton be fabricated into cloth for the flood victims of China.

Even more erratic are some of the proposals. Some call upon the country to go on a two-mattress basis so that in softening beds additional cotton can be consumed. Others seek to enlist the aid of housewives in a campaign to buy another sheet. A total of 300 proposals outlining various plans and methods for relieving the cotton situation have been received by the Farm Board.

It was stated by the Farm Board that one of the main objects in its suggestion for the ploughing under of one-third of the cotton crop, was to stimulate such thinking.

▸ Philadelphia Manufacturers Ask Flood Protection

Philadelphia textile manufacturers located in the northeast section of the city, whose plants were seriously damaged by floods caused by recent heavy rainstorms, met with Mayor Mackey to ask for protection from possible repetition of such losses. The overflowing of Frankford Creek, it is stated, caused damage to the extent of more than $1,000,000 to textile and other plants lining its banks. Representatives of the mill owners have formed the Manufacturers Committee for the Rehabilitation of Frankford Creek, with John S. Turner, head of the Philadelphia Felt Co., as chairman. Among the mills damaged were Edgewater Dyeing & Finishing Co., American Pile Fabric Co., Philadelphia Felt Co., and others.

▸ Textile Design Registration

A desire on the part of the textile industry to co-operate actively in ridding the market of design piracy is indicated by an influx of textile designs into the Textile Design Registration Bureau

since the spring design season opened. More designs were registered last week, the bureau reports, than in any month last year. More than 100 designs a day are being handled by the Bureau, and the staff is working both night and day to furnish the trade with 48 hour service. Interest in registration of designs has been stimulated considerably by the activities of the Design Protection Association in conjunction with which the Textile Design Registration Bureau is operating.

The following instructions have been prepared by the Textile Design Bureau for the guidance of firms registering designs: Register designs prior to processing; wrap designs securely and mark plainly with the name and address of bureau; send bureau original mill drawing from which engraving will be made. Engravers and printers will look for insignia of registration on the reverse side of the engraver's copy; enclose with each lot of designs submitted an application blank completely filled out. (Incomplete application will delay registration); if firm is a corporation, original signature of an officer and the corporation seal are required on the application blank; enclose registration fee ($4.00 for each design). (Checks payable to the Textile Design Registration Bureau); designs must be forwarded for processing within ten days or registration will be void; and last, change of pattern number or of printer should be reported promptly.

▸ Turkish Silk Output Up 10%

Production of raw silk in Turkey during 1930, according to unofficial data, is estimated to have been from 160,000 to 167,000 kilograms or from 10 to 15% more than in 1929 when it amounted to approximately 145,000 kilograms, according to a report received by the Department of Commerce from Commercial Attaché J. E. Gillispie. The Turkish silk textile industry, centered around Brusa, has been expanding rapidly in recent years and Turkish observers predict that the production of silk will soon reach prewar volume of between 250,000 and 300,000 kilograms yearly.

▸ Woolen Mills Trying Durene Mixtures

Contrary to their usual plans at this season a number of important knitting and weaving concerns usually producing only woolen fabrics are taking a keen interest in the possibilities of mixing wool with Durene cotton yarns. The Durene Association states that five important woolen companies are experimenting with Durene-and-worsted mixtures.

▸ Successful Cotton Show at Fayetteville, Ark.

More than 10,000 persons attended the style show and exhibit of the Cotton-Textile Institute, during Farmers' Week at the University of Arkansas, Fayetteville, Ark. recently, according to Miss Connie J. Bonslage, State Home Demonstration Agent. Particular interest is attached to the Fayetteville meeting, which was directed by Miss Catherine Cleveland of the Cotton-Textile Institute, as the audience was drawn from many points in the cotton belt, and marked a fitting climax to the nation-wide activities of the Institute this summer in the interests of the general "Wear More Cotton" movement.

Other fashion shows directed by Miss Cleveland during her last tour have included presentations during Agricultural Field Day at the University of Wisconsin, and University of Chicago, as well as State Clubs and Conference groups in Virginia, and the A.&M. College of Texas. It is estimated that over 25,000 people attended the displays.

Jack Card Is for Bigger and Better Moratoriums

Editor, TEXTILE WORLD:

Huey Long suggests a year's moratorium on cotton growing. Well, one moratorium more or less doesn't matter. Can't you get him a place on the Farm Board?

Anyway the cotton farmers can always grow radishes. I haven't heard of a national surplus of them.

While you're about it, can you fix up a moratorium on these Empress Eugenie hats? JACK CARD.

▸ Invited to 1932 Greenville Show

The Textile Hall Corp., Greenville, S. C., has issued invitations to over 1,700 executives of southern textile mills, calling their attention to the tenth Southern Textile Exposition to be held in that city the week beginning Oct. 17, 1932. The invitations are attractively printed on cotton. Most of the space at the exposition has been spoken for, it is stated.

Higher Wages and Lower Prices Are Necessary, Says E. A. Filene

HIGHER standards of living for all people and permanent prosperity for both capital and labor can be achieved through higher wages for workers and lower prices for commodities, both of which can be made possible by scientific mass production and mass distribution of goods, declared Edward A. Filene of Boston, Mass., U.S.A., in a paper presented Thursday before the first World Social Economic Congress, at Amsterdam, Holland.

"This is no time to be over-cautious," Mr. Filene told an audience of industrial executives, economists, and labor leaders from the principal nations of the world. "This is a time for action. With millions out of work in every country, with warehouses overflowing with goods and food that the masses need to sustain life, explanations will not take the place of action. No explanation will explain away these terrible facts. Crises like this, that bring widespread and long continued unemployment, are due simply to bad thinking; bad thinking especially on the part of business men and financiers.

"The reasons for our present unemployment all go back to the fundamental fact that unless people can continuously buy all that industry produces, times will come when these same people will be unemployed while waiting for present inadequate consumption to catch up with past production. Purchasing depends upon both the wages available for spending and the prices of the things those wages should buy. . . . Thus, for the most selfish of reasons—greater profits—enlightened management has discovered that it is desirable, yes, essential, to raise wages and reduce prices to the greatest possible extent."

The seeming paradox of high wages and low prices, Mr. Filene explained, can be made possible through mass production and mass distribution; he differentiated, however, between mass production and mass distribution and mere large scale production and large scale distribution.

"The present unemployment in America," he said, "is definitely attributable, in large measure, to those industries which, because they clung to traditional methods or adopted large scale production without abandoning their traditional thinking, made it impossible for consumers to purchase the increasing volume of goods which industry as a whole, because of better methods, was turning out. Innumerable instances of so-called mass production in America are in reality only large scale production in which manufacturers have increased output without paying the absolutely necessary attention to increasing the buying power of the masses, without which the increased output cannot be sold.

"Experience with mass production and mass distribution suggests a formula, the practicability of which is shown by innumerable instances of success in business.

The formula, which has regard for the interests of employers, employees and consumers is:

> 'Wages, which mean buying power, should in every industry be raised as high as possible without increasing the cost of the product.'

Of course, such a formula denies absolutely the accuracy of the brutal, classical economic theory of the fixed wage fund, a theory which has persisted with uncanny strength and has done an untold amount of harm."

Overseers' Round-Table

THIS department offers a new subject for discussion each week and gives readers' comments on problems introduced during previous weeks. The subject which was opened four weeks ago is closed this week and a summary of contributed ideas is given on opposite page

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The Overseer as Go-Between

Editor, Overseers' Round-Table:

WHEN THERE is a question that the help want to discuss with the management, such as working conditions, rates of pay, etc., I think that the proper procedure would be for the help to appoint a committee which would represent their question or grievance to the overseer in charge of the department.

The overseer should then take the matter up with the management. He would be in a position to handle the question in the interests of all concerned, which is much better than for the help to go direct to the management.

For the help to be encouraged to go to the management over the overseer's head is bad business, and in time would lower the morale of the organization. WM. G. TUER.

Editor, Overseers' Round-Table:

WHEN ANYONE is given charge of a department as overseer, usually it is because of his ability and tact in dealing with employees, his resourcefulness in accepting responsibility and his loyalty to the company as well as knowledge of the manufacturing problems. Who is there better qualified to handle disputes between workers and management?

An overseer working for any firm that wishes to be square with the workers, who has the management's view-point yet is looking out for the welfare of the employees under him, can act as the "go-between" successfully. The overseer is in direct contact with the workers and knows their troubles. Many complaints are not worth while taking up with the management. The foreman must decide this. When there is just cause for a decision from higher executives, a clear, honest and concise presentation by the overseer, setting forth the managements' interests as well as the workers, should bring the desired results.

There are cases where firms and executives become so absorbed in the problems of production, that they overlook for a time the conditions under which the workers are struggling, or they may be indifferent to the workers' difficulties when brought to their attention by the foreman. After giving his best to remedy the dissatisfaction, the overseer should step aside and let the workers decide the course of action. The same holds true if the workers do not believe that their case has been given proper attention by the overseer.

Appearance Worth Much

"COMING through the mill yard just now, it occurred to me that a great deal could be done to improve the appearance of our grounds," said Superintendent Chase as he glanced around to see if all the overseers were present. "I would like to have a suggestion from someone as to what, if anything, should be done to dress up the mill grounds. Do you think attractive outside surroundings really make the workers like their jobs better?"

"I am heartily in favor of anything to improve the appearance of the space around the mill, if it doesn't cost too much," Joe declared. "It seems to me that mills with beautiful grounds and favorable working conditions always have a better class of labor. Most people like green grass, trees and pretty flowers."

"I'm glad to see you haven't lost your sense of values in this age of machinery and mass production," Mr. Chase laughed.

"Joe is a nut on flowers anyway," declared Bill. "As for the operatives, I think they would get more actual enjoyment and benefit if the money required to grade and plant the mill grounds were spent on some improvements inside the plant. Two or three more drinking fountains, for instance, could be used to better advantage than a dozen flower beds. Maybe I'm opposed to spending money on the grounds because I've had to work too often in my wife's flower garden."

"It may be," Pete shot out, "that money spent on improving the looks of a mill might better be spent in something more tangible, but it seldom is. I'm not out to argue the philosophy of the thing, but this is a time of surface appearance, and if we have a nice looking mill I think that the operatives

Any overseer who has real interests in others, the backing and cooperation of the management and gives thought to his work, ordinarily should be able to settle amicably most disputes between the management and workers.

R. S. WALKER.

Editor, Overseers' Round-Table:

MY PERSONAL experience, limited as it may be, recognizes an overseer as a representative of management. It is through him that management makes contact with labor and his position, like that of any other official in a large organization, carries with it certain well defined limits of authority. In the proper use of this authority he is as directly responsible to his superiors as the president is to the board of directors.

Occupying such a position, it is essential that the overseer be advised, as far as is practical, concerning the policies of management so that he, in turn, may interpret them understandingly to the workers. Likewise he must be close enough to the help so they will come to him with their questions or complaints and be assured of a friendly hearing. If the matter is within his province the overseer will assume authority; if not he will consult with his superiors before acting.

An efficient overseer, tactfully fulfilling the duties of his

to a Mill?

will feel better than if we had the few more drinking fountains that Bill talks about. You go up to a movie place that looks pretty nice and chances are that you won't even look at what the feature picture is, but will dash in anyway."

"Of course," Pete continued, "I'm very much in favor of having a mill fine when you get inside, but I'm also very much in favor of it looking well from the outside. Talking about flower gardens, I must admit that I would be prouder of nice flowers in sight than nice flowers hidden in my dining room. I think it is well worth the time and money for any mill to dress up the grounds and make everyone, including the workers, consider the mill as something more than just a tough business enterprise."

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Do *you* think that it is worth while to spend money in keeping up the outside appearance of a mill?

Overseers and others are invited to discuss this and other questions brought up in the super's talks. Letters accepted and published will be paid for without regard to length. Brevity is desirable.

position as outlined, not only experiences the full confidence of management and labor, but seldom, if ever, experiences the conditions set forth in the discussion. While not a "go-between" in the odious sense, yet, through his understanding and efforts, he does prevent the development of serious problems.. The real overseer is a part of management and a friend, advisor and leader of his workers.

Z. E. SARGISSON, B. F. Goodrich Co.

Editor, Overseers' Round-Table:

THE WORD "get-at-able" may not appear in your standard dictionaries—possibly some day it may—but today we often hear, "yes, Mr. Smith is a wonderful manager, he is so get-at-able." However, few of the workers realize the vast amount of work a president or manager has, and that it would be impossible to see everyone.

The overseer can serve as a good "go-between" in many cases, for when he is in the office discussing one thing with the management he can present several points at issue for various workers at the same time. Often these are matters requiring only a few seconds. If the result is not satisfactory, it should be the privilege of all to have a personal interview.

Sometimes a worker is hired after personal correspondence with the company, but after starting work he finds he never has an opportunity of speaking with the management and he may think he is not receiving the treatment that was intended. A few minutes personal interview would adjust any misunderstanding.

The worker may object to doing everything through the overseer, and I know many of the latter who would prefer not to act as a "go-between" in what may be private matters.

THOS. ROSEVEAR.

Publicity for Bad Work

Editor, Overseers' Round-Table:

THE POSTING of notices as a detriment to bad work is a new and somewhat bold procedure. However, I think it is worth a trial for a period of not less than two months.

During this trial period the superintendent should make himself familiar not only with the effect on bad work, but also the psychological effect on overseers and workers.

The weekly production sheet, posted in each department, has done much as an incentive to higher percentage of production, but this incentive has a tendency to increase, rather than reduce, seconds. The plan under discussion will do much to counterbalance this tendency. My opinion is that, while production would be somewhat lower, a much needed reduction in seconds would result. SEER.

Editor, Overseers' Round-Table:

IN THIS modern day I think the best way to handle bad work is for the super to call the foreman in, talk with him, and tell just what he thinks of the foreman's way of handling the work.

Now, I find that I can get better work from my help by using them as men and women. It does not pay to bawl an employee out in front of his fellow workers as it make him mad. I find that by going to the one responsible for the bad work and talking to him or her in a nice way—yet letting them know I mean what I say and first class work must be turned out or they are through—I get better cooperation than any other way and better production for my employer. I have never had any trouble with my help as yet and have the best. In the end it pays, both for me and my employers.

C.W.P.

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Summary of Discussion on Overseer as Go-Between

Approximately 55% of the contributions stated that it was the duty of the overseer to act as a go-between when there was any topic up for discussion, or possibility of disagreement, between the workers and the management. This group believed that the overseer was an officer of management, but also a friend of the workers, and thus in an excellent position to see that both sides of the question received proper consideration. About 25% of the letters said that the overseer should assume a hands-off attitude in any discussion between management and labor, as he might place himself in a position where both sides might believe that he did not represent the case adequately. The remaining 20% believed that the overseer should handle minor matters, but that workers and management should get together directly concerning anything of importance.

NEWS about MEN

A. Harris Ide was elected president of George P. Ide & Co., Inc., Troy, N. Y., at a meeting of the board of directors, to succeed the late Herbert S. Ide. A. Harris Ide was formerly a vice-president of the concern, and graduated from Williams College in 1895. Immediately upon his graduation he started work with George P. Ide & Co., founded by his father, and was named a vice-president in 1920, a position he has held since.

J. Alonzo B. Taylor, who was president of the Channing Smith Textile Corp., Cherry Valley, Mass., now out of business, and who is president of the Manufacturers Textile Association of Worcester County, Mass., has accepted the position of superintendent of the Elmdale mill of S. F. Scott & Sons, Inc., Uxbridge, Mass.

Elliott White Springs, Fort Mill, S. C., president of a number of cotton mills, has been appointed a delegate to attend the State Aviation Conference at Cleveland, Ohio, Sept. 1 and 2. Captain Springs was an ace in the World War, and does a great deal of flying.

Charles T. Davies, president and buyer of the Davies Hosiery Co., Reading, Pa., and Mrs. Davies, have gone to Canada where they will stay for a few weeks. They will then take a western trip in the U. S. stopping at the Culver Military school in Indiana where their son Donald will join them and accompany them home to Reading.

Gustav Oberleander, treasurer, Berkshire Knitting Mills, Reading, Pa., who recently gave $1,000,000 to the Carl Schurz Memorial Foundation, was recently guest of honor at tea in the gardens of the German chancellor's palace, arranged by the German Carl Schurz Society as a means of expressing its thanks for the gift. Vice Chancellor Hermann Dietrich and officials of the society praised his generosity. Mr. Oberleander spoke briefly. "If the women had not bought silk stockings," he said, "I never would have had the money to give you."

Edward J. Brady, president of the Waucantuck Mills, Uxbridge, Mass., and daughters, are at Narragansett Pier, R. I., for their annual vacation.

William W. Ollendorff, president and treasurer of the Bellingham Woolen Co., North Bellingham, Mass., and family, are on a vacation at Harwichport, Mass.

George S. Barton, president and treasurer of Rice, Barton & Fales, Inc., Worcester, Mass., and family, are at West Chop, Mass.

Charles A. Root, treasurer of the Uxbridge (Mass.) Worsted Co., Inc., and family, will stay at their summer home at Watch Hill, R. I., until the latter part of September.

A. H. Robbins, vice-president and general manager of the Eureka Cotton Mills, Chester, S. C., has been elected a member of the finance committee of the National Exchange Bank of Chester, succeeding the late S. M. Jones, a director of the Aragon-Baldwin Cotton Mills, Inc.

Walter L. Wiley was named a member of the executive committee to fill the vacancy caused by the death of **H. S. Ide.** Mr. Wiley is secretary and treasurer of Geo. P. Ide & Co., Inc., Troy, N. Y. With him on the executive committee are **A. Harris Ide** and **P. H. Duer.**

Elliott W. Springs, who was appointed delegate to attend the State Aviation Conference at Cleveland, Ohio.

Randolph Crompton of the Crompton-Scofield Mfg. Co., Worcester, Mass., and family, have sailed from New York on the "Britannic" for Europe, where they will remain until the late fall.

C. N. Wilson, formerly auditor of the Belding Heminway mills, Belding, Mich., has been promoted to general manager, succeeding **M. K. Case,** who will assume charge of Mill No. 4. **H. H. Fisher,** New York, will have charge of the fabric department in all mills and **Victor Rash,** who recently went to Belding from the East, will have charge of the hosiery department.

K. P. Thorne, secretary-treasurer of the Aberley Knitting Mills, Ltd., Toronto, Ont., since 1920, has become secretary-treasurer of the Abercrombie Knitting Mills, Ltd., Toronto.

Martin H. Grotrian, manager of the New Haven Silk Hosiery Mills, Fort Wayne, Ind., for seven years, has given his resignation to the receiver of the company, effective immediately. No successor has been named.

Harvey Dietrich, formerly with Schwarzenbach Huber Co.'s, Altoona, Pa., plant, is now general superintendent of Kingsport (Tenn.) silk mills.

Albert Palmer, assistant to the general manager of the Crompton & Knowles Loom Works, Worcester, Mass., has been appointed a member of the newly organized committee on machine design under the auspices of the American Society of Mechanical Engineers. This committee will arrange for papers on machine design to be presented at meetings of the society and will, in general, coordinate the activities of members interested in this phase of engineering and manufacturing. The chairman of the committee is **Frank E. Eidmann,** professor of mechanical engineering of Columbia University.

Richard Heywood, purchasing agent for the Draper Corp., Hopedale, Mass., who is recuperating from injuries received in an automobile accident in Middleboro, Mass., on July 3, has left for a two months' European trip.

Arthur Granger, former superintendent of the Hudson River Woolen Mills, Newburgh, N. Y., resigned Aug. 21. The overseers gave him a farewell dinner at Goff's Inn, Cornwall-on-Hudson.

Edwin L. Lyons, superintendent of weaving in several Rhode Island cotton mills, including the Warwick Mills, at West Warwick and the Manville-Jenckes mill in Pawtucket, is now with the Lonsdale Co. at the Ashton (R. I.) plant.

Allen T. Samuel, for the last 11 years representative of the underwear lines of the P. H. Hanes Knitting Co., Winston-Salem, N. C., in the Middle West, has been appointed manager of the New York office of the company. He succeeds the late **C. W. Godwin.** William H. Sanders has been appointed to succeed Mr. Samuel, but the latter will continue to supervise his old territory.

Walter Cooper, playing with the Kendall Mills golf team in a match against a group from the Cabarrus Country Club, Concord, N. C., set a new course record by turning in a score of 30 for the last nine holes. Mr. Cooper went out in 40 thus getting a gross 70, low score for the day.

James C. Montgomery, superintendent of the Graton & Knight Co., Worcester, Mass., and Mrs. Montgomery, are at Fort Hill, Prince Edward Island, Canada, until Sept. 1.

Donald W. Barnes, superintendent of the Rivulet Spinning Co., Inc., North Uxbridge, Mass., and president of the Blackstone Valley (Mass.) Mills Association, with Mrs. Barnes and family, are passing their vacation at Misquamicut Beach, R. I.

George L. Mendes, who was southern representative for Goldstein Wilkins Corp., silks, for seven years, and who resigned from that position Aug. 1, has become affiliated with the Guardian Life Insurance Co.

Acme

Cotton conference in New Orleans—Governors, Senators, Congressmen, Agricultural Commissioners and other State officials from fourteen southern States gather to discuss the cotton problem. Gov. Huey P. Long of Louisiana is shown (right) as he presented a plan advocating no planting of cotton for 1932 as a relief of the situation.

John M. Warnke, assistant superintendent, Webster (Mass.) Mills of the American Woolen Co., has been elected commander of the Worcester County (Mass.) Council of the American Legion.

William H. Lorimer, head dyer, Larkwood Silk Hosiery Mills, Charlotte, N. C., has resigned that position effective Sept. 1.

A. J. Mathews has been promoted to position of overseer of weaving at the Wearwell Bedspread Mill, Leaksville, N. C., one of the units of the Carolina Cotton & Woolen Mills Co., succeeding **C. F. Helderman,** who recently resigned to accept a similar position with a textile mill in Burlington, N. C.

L. L. Vaughn has resigned as cotton buyer for the Cowpens (S. C.) Mfg. Co., and will be manager of the Greenville Oil Mill Co., Cowpens, S. C.

Obituary

W. A. Robinson

W. A. Robinson, associated with his brother, T. L. Robinson, in the firm of Robinson Bros., Gadsden, Ala., and treasurer of the Adelaide Cotton Mills, Anniston, died last week in Gadsden after a long illness. He was one of the pioneer cotton dealers of his section and previous to that was engaged in the cotton business in Fort Wayne, Ind.

Charles Tabor

Charles Tabor, textile authority and fabric technician, died last Sunday at Wallum Lake, R. I., sanitarium. For many years he was selling agent for Aldrich Bros. Co., Moosup, Conn. His last position in the industry was in the capacity of cloth broker. Mr. Tabor was 47 years old and lived in Forest Dale, R. I. He is survived by his widow, two sons and a daughter.

Bradford A. Clark

Bradford A. Clark, former owner of the Yawgo Mills, Slocum, R. I., died on Aug. 23, at his home in Cranston, R. I. He was in his 88th year. He retired from active business about 12 years ago, when he sold his mills. He was a member of the Masons, and is survived by his widow, two sons, and a daughter.

Dwight E. Squier

Dwight E. Squier, Monson, Mass., retired textile official, died at his home in that town on Aug. 21, after three months' illness. He was born in Monson, on Nov. 16, 1838 and lived there all his life. In his early life, he was overseer of weaving in a mill operated by Joseph Reynolds in Monson. Later he was master mechanic for S. S. Cushman & Son at the Branch mill, Monson. He retired about 15 years ago. At 92 he was the second oldest man in the town. He leaves a daughter.

David A. Longacre

David A. Longacre, secretary and treasurer of the Philadelphia Association of Credit Men, died Aug. 19, at his home at Norristown, Pa. Mr. Longacre was for many years connected with the Philadelphia offices of the former Argo Mills Co., Gloucester, N. J., which dissolved about 16 years ago.

L. R. Miller

L. R. Miller, aged 34, who for the last three years held an important position with Mock-Judson-Voehringer, Inc., Greensboro, N. C., died suddenly following a heart attack early last week.

J. C. Edmiston

J. C. Edmiston, aged 76, superintendent of the waste plant of the Mooresville (N. C.) Cotton Mill for 35 years, was fatally injured when his automobile was struck by a train.

Byron Cooley

Byron Cooley, overseer of wet finishing for the Assabet Mills, American Woolen Co., Maynard, Mass., died recently after a week's illness. He had held position at the Assabet Mills for three years, previous to which time he was for two years general finisher for all the mills of the American Woolen Co. Before entering the employ of the American Woolen Co., he was with the Atlantic Mills of Stottville, N. Y., starting in as an apprentice and working up to be assistant finisher. Mr. Cooley was about 65 years old.

Frederick Harris Warner

Frederick Harris Warner, for 25 years head of the New England division of the William Skinner & Sons, silk manufacturers, Holyoke, Mass., died at his home, Brookline, Mass. Mr. Warner was born in Enfield, Mass., Aug. 28, 1849.

Textile Calendar

Carolina Yarn Association, Second Annual Golf Tournament and Outing. (Place to be announced later.) Sept. 18 and 19, 1931.

National Association of Cotton Manufacturers, Annual Meeting, Providence-Biltmore Hotel, Providence, R. I., Oct. 7 and 8, 1931.

Silk Industry Week, Paterson, N. J., Nov. 14 to 21, 1931, including Silk Machinery Exposition, Nov. 14 to 21; National Silk Convention, Nov. 18 and 19; Paterson Silk Institute, Nov. 14.

American Association of Textile Chemists and Colorists, Annual Meeting, Boston, Mass., Dec. 4 and 5, 1931.

Knitting Arts Exhibition, 28th Annual Show, Commercial Museum, Philadelphia, April 11 to 15, 1932.

Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 17 to 22, 1932.

NEWS about MILLS

Cotton

Bradford Cotton Mills, Inc., Montgomery, Ala., with authorized capital stock of $100,000, have been chartered to succeed the **Montala Mfg. Co.** H. B. Dowell, Prattville, Ala., is vice-president and general manager. A. L. Bush is secretary.

Eagle & Phenix Mills, Columbus, Ga. A building permit has been issued to the Williams Lumber Co., local contractors, for the erection of a concrete retaining wall for a mill race, estimated to cost $10,000.

Swift Spinning Mills, Columbus, Ga., have awarded contract to W. C. Whittaker, for the construction of a boiler house at their plant at Columbus. Robert & Co., Atlanta, are engineers for the project.

Glendale Elastic Fabric Co. and the **George S. Colton Elastic Webb Co.,** divisions of the **United Elastic Corp.,** have been consolidated into one division called the **Easthampton (Mass.) Division** of the United Elastic Corp. Chain and variety store sales will be in charge of Clifford A. Richmond. J. E. Thompson will be superintendent of production for the manufacturing, jobbing and department store trade, and will also be purchasing agent. Solomon Kendrick will be superintendent of manufacturing. All three have been identified with the Easthampton mills.

***West Boylston Co.,** Easthampton, Mass. At its annual stockholders' meeting Aug. 20, the company voted to put all its land and buildings in the hands of an agent for sale. It was also voted to redeem in two or more installments, outstanding certificates of $25 each, issued to preferred stockholders in May to the amount of $403,600. Power of attorney to vote at meetings of the **West Boylston Co. of Alabama** was granted to F. Coit Johnson, G. Arthur Cook, Stuart H. Johnson, F. H. Babcock, M. H. Sterne and W. C. Bowman. Disposal of the property mentioned was left to David H. Mason, 24 Mill St., Boston. All the officers of the company were re-elected.

New York Mills (N. Y.) Corp. is employing 1,400 operatives on a full 48-hour week, according to Alexander F. Hobbs, president. Mr. Hobbs is optimistic regarding business prospects in the mills. "At present," he said, "we are working one shift at night and our production is about 80% of capacity. We have a good many orders and have reason to believe we shall have more coming right along. It should not be long before we have 1,800 workers on the payroll."

San Antonio (Tex.) Cotton Mills have closed down their branch plant at Kingsville, Tex., indefinitely. This branch spun coarse yarns, being equipped with 2,400 ring spindles.

Kendall Co., Paw Creek, N. C., has work under way on a new one-story mill addition, reported to cost over $20,000, and expects to have it ready for service at an early date. Harrison-Wright Co., Charlotte, N. C., is general contractor.

Dyersburg (Tenn.) Cotton Products Co., has adopted a capacity schedule at all of its mill units, including night shifts at several plants, and expects to hold to this basis for an indefinite period. The spinning mill is giving employment to near 1,700 persons.

Cutter Mfg. Co., Rock Hill, S. C., has been on a three-day week during the last few months and will likely continue on this schedule for several weeks longer.

Borden Mills, Kingsport, Tenn., are resuming operations on the night shift. For the last several months the Borden mills have been running only on the day shift. According to the announcement, the night shift, now going back to work, will include only men. As the plant swings into full operation, the number will be increased until the full night force of slightly more than 500 is back on duty. Former employees will be given preference.

***Planters & Merchants Mills, Inc.,** New Braunfels, Tex. Sale by Receiver Ralph Durkee of San Antonio, Tex., of properties, including factory site, plant, equipment and stocks of manufactured goods and raw materials for $242,900, has been approved by the ninety-fourth district court at San Antonio, by whose order the sale was made. H. A. Wagenfuehr of New Braunfels purchased the mill and all equipment, while William Iselin & Co., of New York, purchased the manufactured goods and raw materials.

Albemarle Weaving Co., Charlottesville, Va., manufacturers of drapery and upholstery materials, has completed plans for a substantial increase in production, including the erection of a new building for storage and warehouse purposes and the installation of preparatory machinery to take care of an additional 50 looms. The plant has been in operation continuously on a day and night basis for the past three years. Harry J. Hunter, who has been interested in the plant for five years, has been elected president. The company will manufacture exclusively for the converting trade. R. A. Bonnin continues in the capacity of superintendent.

Dominion Textile Co., Montreal, Que., is carrying out an expansion program at its Magog (Que.) mill, which will be given over to finishing operations for the development of a new line of textiles at the mill at Montmorency Falls, Que. New equipment will be installed at the Magog plant for considerable increase in present capacity. The entire program is reported to cost over $400,000.

Wool

Putnam (Conn.) Woolen Corp. is transforming a former storehouse of the Waterman Worsted Co., Inc., into a weaving plant. Removal of looms into the new plant has already been started, and each will be equipped with individual electric motors. The lower floor of the three-story brick building at Church and Pomfret Sts., will continue to be used as a storehouse by the company.

Adams (Mass.) Textile Co., formerly the **Adams Woolen Co.,** which shut down several weeks ago, was placed on sale Aug. 22 to satisfy mortgage foreclosure proceedings brought by Kridel & Sons, New York. E. K. McPeck, attorney, bid in the property for about $4,000. The South Adams Savings Bank also holds a mortgage on the property.

Hayward Mills, Franklin, Mass. Business is beginning to show improvement, and it has been necessary to hire 50 additional hands recently. Company officials look upon the present pick-up as a promise of better times in the near future.

Sam Dubin & Son, Inc., Northboro, Mass. This wool waste company is moving from the plant of the Queensbury Mills, Worcester, Mass., to the former branch plant of the Chilton Co., on Hudson St., Northboro, Mass., a part of which it has leased; the **Blackburn Worsted Co.,** Northboro, has taken the weaving building. Mr. Dubin has incorporated the business under the name of Sam Dubin & Son, Inc., with a capital stock of 1,000 shares of common without par value. He is president and treasurer of the corporation. The other directors are Sadie Dubin, and Israel S. Zelkind, president and treasurer of the Zelkind Waste Co., Inc., Worcester.

Ohio Carpet Co., West Warren, Mass., has awarded the contract for the construction of an office building at its plant, to the Rice, Gadaire Lumber Co., Brookfield, Mass.

Stayton Woolen (Ore.) Mills, which closed three years ago, are now opening under new management. John Chapman and Thomas Thomas, formerly with the American Woolen Co., have taken over the place under lease with an option to purchase. The men are supervising the overhauling of machinery, and a force of 40 operatives, many of them former employees of the Stayton plant, will be employed.

Platt Bros., Inc., Manayunk, Philadelphia, woolen yarn spinners, have awarded contract for alterations and additions to their office building, at a cost of about $3,500.

***William H. Prendergast** (wool goods mill), Bridgeton, R. I., has awarded contract to Orton & Stark, Providence, for a one-story frame addition, 25x160 ft.

**Indicates previous mention of project.*

Perclay Yarn Co., Pawtucket, R. I., has awarded a contract for the erection of a one-story mill building, 67x92 ft. The mill will cost about $18,000 with equipment.

Knit

Utica Knitting Mills, Anniston, Ala., which branch plant is already operating with 275 employees on the payroll, are now installing 28 new circular knitting machines. The machines were purchased by George Schneider, manager of the plant while visiting the main office at Utica, N. Y.

Volunteer Knitting Mills, Athens, Ala., are expected to start up in the early fall, according to local officials. The local plant was run many months during the business depression and shut down only a short time ago.

Alcone Knitting Mills, Essdee Knitting Mills, and the **Cohen Dress Co.,** have established downtown quarters at 154 Sutter St., San Francisco, Calif. The general offices and showrooms of the knit goods and dresses made by these companies will be at this location. The knitting mills and dress factory are located at 1663 Mission St.

Essex Knitting Mills, 144 Orange St., Newark, N. J. Robert Kiernan, Newark, has been appointed receiver for this company. Liabilities are stated to be $16,000.

***Asheville (N. C.) Hosiery Co.** The new dye-house and finishing plant has been completed, machinery has been installed, and the plant is now in operation, according to announcement of David Baer, treasurer of the company. The mill is operating full day and night shifts. The cost of the new buildings, he states, was approximately $150,000. The regular working force of 150 will be increased by 50 more within the next few weeks, making the payroll around $4,000 weekly. The new buildings have floor space of about 11,000 sq.ft. Theodore Rogers is president and Robert G. Hoch superintendent of the company.

Hudson Silk Hosiery Co., Charlotte, N. C., has made plans for spending approximately $100,000 next spring in building an addition to its North Brevard street plant, so that the entire plant may be under one roof, F. Seifart, head of the company, has announced. The company now has two plants, one at 712 North Brevard street and another on North boulevard. In order to move its South boulevard equipment into the new plant, the company will add 28,000 square feet of floor space to its Brevard street building.

Simmons Mill Co., High Point, N. C., has filed plans for extensions and improvements in a building on King St., to be used for a new knitting mill. The plant will be one-story, and is reported to cost over $18,000, with equipment.

Mammoth Hosiery Mills, Stroudsburg, Pa. Morris Pollin has announced that about $75,000 will be spent for new machinery, which will give employment to about 60 additional workers.

Fairlawn Knitting Co., Woonsocket, R. I., has discontinued the manufacture of hosiery and its plant has been put on the market by the owner, Joseph Decelles. The latter has been engaged in the knitting business for a number of years.

Rock Hill (S. C.) Hosiery Co. There has been an increase in the number of employees at this plant of approximately 40% in recent weeks. Directors of the building company have voted to cooperate with the mill management in erecting a dyeing department.

Silk

A. L. Hill, Inc., Paterson, N. J., recently organized with capital of $100,000, to operate a local broadsilk mill, will be represented by Jessie Licker, 126 Market St., Paterson, attorney. A. L. Hill will be president of the company.

Huguet Silk Co., Hornell, N. Y., is going at top speed due to a large influx of orders resulting from the closing of plants in other localities. Several departments of the mill, invariably closed in other years at this season, are working full-time with every indication that steady work will be had for some time to come.

Onondaga Silk Mill, Ogdensburg, N. Y., is now employing 185 persons. The average weekly payroll is about $4,500. E. B. Knecht, manager, states that the working force and payroll are the largest since the firm opened several years ago.

Southern Silk Mills, Greensboro, N. C., are holding to a full-time capacity schedule at their local plant, as well as at the branch mill at Kernersville, N. C. This rate of output will be maintained for an indefinite period.

Herman Silk Co., Coatesville, Pa., is planning to start work with 60 looms, employing 50 or more people, on Oct. 1, and increasing later to 100 looms. The Herman Silk Co. is moving from Paterson, N. J., to Breuninger Bros. building in Coatesville. A three-year lease has been taken on the first floor, with a five-year additional option, and a three-month option to lease half of the second floor. Renovation of the building to accommodate the type of machinery to be installed has begun.

Schwarzenbach-Huber Co. has moved its stock department from Union City, N. J., to Columbia, Pa., according to John Veit, superintendent of the Columbia plant. This will bring 40 more operatives to Columbia and will make it the center of distribution. Schwarzenbach-Huber Co. will lease another floor in a local mill to accommodate shipping operations.

Parkersburg (W. Va.) Silk Mill is running on a capacity schedule at its mill at Parmanco, near Parkersburg, with overtime operations in a number of departments.

Rayon

Tubize-Chatillon Corp. What is said to be one of the largest group accident policies taken out by a textile company, was recently written by C. U. Woods, Shelby, N. C., group manager of the Provident Life & Accident Insurance Co., covering over 5,000 employees of the Tubize - Chatillon Corp. The premium, it is said, is over $100,000 a year.

Miscellaneous

Globe Mattress Mfg. Co., Boston, Mass., recently organized with a capital of $100,000, will be represented by Max Rothstein, 98 Friend St., Boston, who will also be treasurer of the company. Irving P. Rothstein will be the president.

Norrie Mills, Millbury, Mass., manufacturers of fancy linen materials, have been ordered sold at auction by Stephen F. Bellville, tax collector, for non-payment of taxes during the last year. The property to be sold includes machinery, storehouse, water power rights and land. The tentative date for the sale is Aug. 29. The property is assessed for $16,400 and a tax title of these holdings was acquired last year by Sawyer Co., Inc., Boston. Officials stated that this concern will be given preference in the bidding, as it has already paid one year's taxes on the property.

Independent Quilting Co., Inc., Bergenfield, N. J., recently chartered with a capital of $140,000, to operate a local mill, will be represented by Louis J. Lifschitz, 1441 Broadway, New York, a certified public accountant. The company is headed by Irene Newland, Bergenfield, N. J.

Capron Mills, Utica, N. Y., of the **Sauquoit Spinning Mills, Inc.,** Gadsden, Ala., were sold to the **Sterilek Co., Inc.,** Brooklyn, N. Y., manufacturers of sanitary specialties sold in department stores, chain stores of Woolworth's and Kresge's, and other retail outlets. The firm expects to be in operation in Utica early in November, and will employ several hundred persons. The Sterilek Co., Inc., is said to be owned and controlled by H. C. Simon, president, and B. Trolin, secretary and treasurer. These men are also said to control the **Superfine Paper Mills** at Clayville, N. Y., and the **Sitroux Importing Co.** of New York.

John A. Holmes, High Point, N. C., will open a batting factory in the building on Springdale Ave., which formerly housed the old High Point Box & Lumber Co. Modern machinery is being installed and the plant will be opened Sept. 15, it is reported.

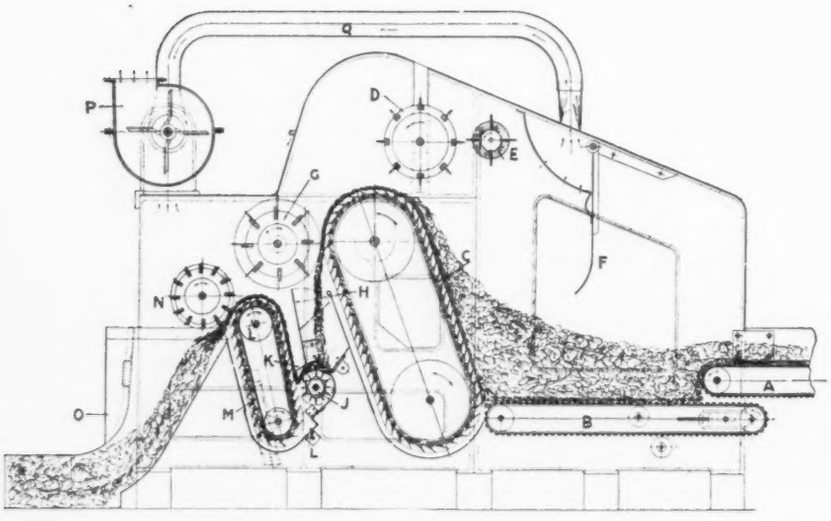
Texas Bag & Burlap Co., Houston, Tex., is planning to rebuild a portion of its plant on Polk Ave., recently destroyed by fire with a loss reported to be close to $40,000.

Rest-Well Mattress Co., Norfolk, Va., and Portsmouth, Va., will open a branch factory at Hopewell, Va., it is reported. J. E. Leggan is the proprietor. The company has purchased property near Clear Water lake on which the plant will be located. Cotton will be purchased from the farmers in this section who grow it.

Salem (Ore.) Linen Mills have begun operations starting up two looms on toweling. Ten additional looms will soon be placed in operation. F. J. Galbraith, manager, is reported as having purchased 12 more looms for installation. The plant was formerly the Oregon Linen Mills.

**Indicates previous mention of project.*

New Machinery *and* Processes



Bale breaker designed to subject cotton to intensive combing action

High-Draft Bale Breaker

DEVELOPMENT of a high-draft bale breaker designed to subject cotton to an intensive combing action is announced by Atkinson, Haserick & Co., 152 Congress St., Boston, Mass., American representatives of Dobson & Barlow, Ltd., Bolton, England.

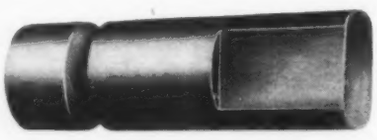
This machine is said to bring hard-pressed cotton to the desired loose condition necessary for subsequent operations, and at the same time to effect an exceptionally thorough cleaning.

The accompanying illustration shows the action of the bale breaker. Cotton is fed on to the automatic feed lattice *A* and is conveyed by the lower lattice *B* to the upright spiked apron *C*. An evener roller *D* and stripping roller *E* are located above the apron in the usual manner, the cotton being stripped from the latter by the stripping roller *G*. Instead, however, of the cotton then being passed forward to the mixings, it may, if necessary, be subjected to further opening and cleaning before leaving the machine. By the appropriate use of the hinged by-pass plate *H* the cotton can be directed on to the spiked roller *J*, past the feed plate *K* and on to the secondary spiked lattice *M*, from which it is stripped by the roller *N* and passed to the mixings or to the subsequent machines.

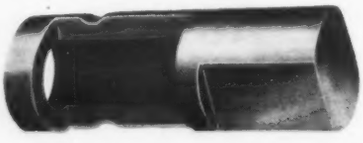
Since the surface speed of the lattice *M* is greater than that of the spiked roller *J*, the cotton temporarily held between the feed plate *K* and the comparatively slow-running spiked roller *J*, is subjected to a definite combing process. If, however, the quality of the cotton being treated does not necessitate the use of this additional opening and cleaning medium, by placing the by-pass plate *H* in its lowest position, the cotton is immediately directed on to the spiked apron, thereby avoiding this extra processing. Provision is made for the adjustment of the lattice *M*, by means of the slots *L*, according to requirements in the treatment of the different classes of cotton.

By the incorporation of an aspirator, or air control pipe and rotary cage, working in conjunction with a powerful exhaust fan, it is stated that an even greater amount of cleaning can be effected to supplement the extra opening powers of the machine.

The opening and cleaning medium contained in this machine can be applied, as a self-contained unit, to existing bale breakers.



Self-lubricating bushing for top rolls



Sectional view of self-lubricating bushing

Micrometer microscope with magnification of 41.5×

Precision Microscope

A MICROMETER microscope for the accurate checking and control of small manufactured pieces, or for precision measurements on standard scales or circular divisions, is announced by the Société Genevoise d'Instruments de Physique through its American representatives, The R. Y. Ferner Co., Investment Bldg., Washington, D. C. This microscope is known as Model 281-D. It may be used for checking the profiles of small gears or screw threads, or for measurements of fine wires, textile fibers, diamond dies, jewel bearings, dies for the manufacture of rayon, and similar articles. All parts of the microscope are carefully constructed, and it is stated that extremely precise measurements can be secured. The total magnification of the instrument is 41.5 X.

Self-Lubricating Top-Roll Bushing

FREQUENTLY oiling top-roll bushings is made unnecessary by use of a self-lubricating bushing, developed recently by the Saco-Lowell Shops, 147 Milk St., Boston. This consists essentially of a wooden bearing enclosed in a steel shell, the wood having been saturated with oil. The steel shell forms a protective covering for the bushing and assists in retaining the oil in the pores of the wood. The first few hours of running coats the gudgeon with a

fine film of oil which remains as a permanent lubricant.

In a comparative test employing one of the new bushings and one of the regular cast-iron bushings made by the manufacturer, the self-lubricating bushing revealed only one-third as much wear as did the conventional type. The front-roll speed was maintained at 550 r.p.m. continuously for ten months, and a 28-lb. weight was attached to each bushing. The cast-iron bushing was oiled every day and the self-lubricating bushing was not oiled at all.

It is planned to make this device standard equipment on all new Saco-Lowell drawing frames, and the bushing has been designed to permit of easy installation on existing frames.

Compensated Tubing

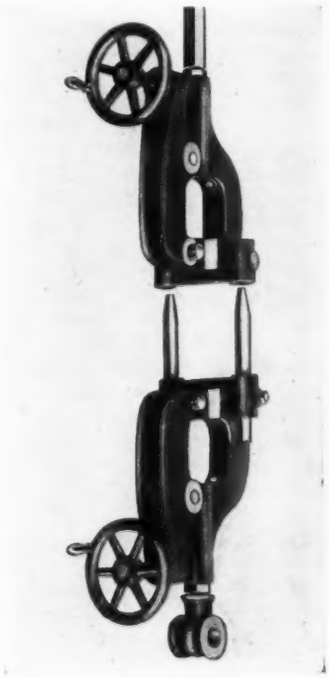
TO eliminate possible error in the functioning of temperature recording and control instruments, Taylor Instrument Cos., Rochester, N. Y., have produced a new type of capillary tubing in which the compensating qualities have been incorporated in the material of the tube itself. The source of instrumental error is the external temperature to which the tubing is subjected; and although several methods have been used to eliminate this error, it is stated that this is the first device in which the compensating arrangement is an integral part of the material of which it is constructed.

Essentially, the new method consists of so proportioning the volume of mercury in the tubing to its coefficient of expansion and to the size of the alloy wire, that any change in the volume of mercury resulting from external temperature changes is accurately compensated. For this reason the adjustment is made for each varying exposure, and it is not neecssary to compensate the instrument for the average external condition along the length of the tubing.

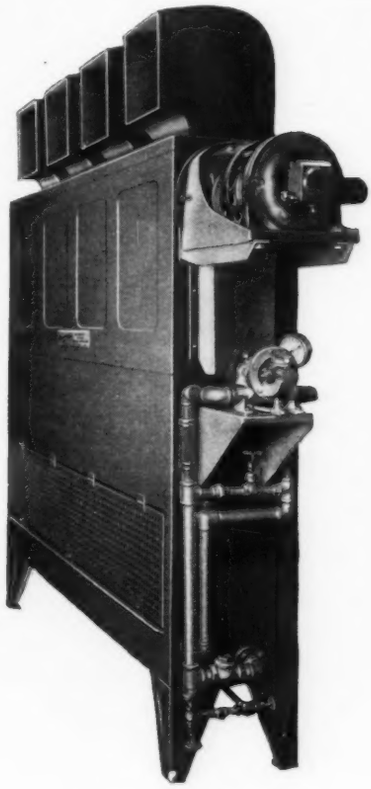
Temperature recording instrument compensated for external conditions

Alignment Pins for Tester Jaws

ON THE recommendation of Committee D-13, of the A.S.T.M., Henry L. Scott Co., Providence, R. I., has made available a set of alignment pins to be used on the fabric jaws of vertical testing machines. The lower jaw is provided with two ½-in. pins, one on each side, which project upward and are adjustable for different spacing between the top and bottom jaws. The upper ends of the pins fit into the tapered holes in the top jaw when the specimen is being inserted, but disengage when the jaws separate. It is believed that this attachment will assist in producing better and more comparable results by keeping a constant distance between jaws and by keeping the latter in perfect alignment.



Testing machine jaws fitted with alignment pins



Air-conditioning unit

Speed-Reducer Housings

ROLLED steel housings are now being applied to the line of speed-reducing units manufactured by the Philadelphia Gear Works, Erie Ave., Philadelphia. The chief advantage of these housings lies in their strength. The manufacturers state that they are practically indestructible; and that they are, in effect, hermetically-sealed vaults guarding against the entrance of dust, dirt, moisture, acid fumes, and other external dangers. Impacts which would normally crush a cast-iron casing are said to have no effect upon these steel housings.

Rolled steel housings are practically indestructible

Unit Air Washer

CONDITIONED air at all seasons is provided by a unit air washer brought out recently by the Buffalo Forge Co., Buffalo, N. Y.

Cooling of the air in hot weather and reasonable cost are two features which the manufacturers believe will promote the application of the unit in the smaller commercial establishments.

The equipment consists of a self-contained unit with spray nozzles, eliminator plates, heating coils (for cold weather), and two or more motors for distributing the tempered air through overhead outlets. In operation, the pump recirculates water to the spray nozzles under pressure sufficient to provide ample atomization. All the air passing through the unit must pass through the spray, which removes dust and dirt. After passing over eliminator plates, which are used to remove the surplus moisture, the air is forced through the heating coils and then distributed by the fans.

Questions... *and* Answers

Mildew in Cotton Knit Goods

Technical Editor:

Occasionally some of our knitted cotton fabrics which are stored in the gray to await future dyeing become mildewed. We do not seem able to produce a level dyeing on such fabrics. The mildew seems to act as a resist and to prevent penetration of the dyestuff in spite of any treatment which we give the fabric before applying the dye solution. If there is any possible treatment that we might give these goods before dyeing which would eliminate the resist effect of the mildew, we should appreciate learning about it. (7643)

When fabrics are badly mildewed, there is not much hope of ever dyeing them so that the effects of the mildew will not show in the colored goods. Cotton fabrics should be stored in a dry place; and if this is not possible, the storage room should have plenty of light and a good circulation of air. This is one of the best means of preventing the formation of mildew.

Any pieces which are mildewed slightly can be treated so that they will dye quite uniformly in medium shades. First soak the goods thoroughly in cold water. Several changes of water made every half hour will tend to soften the mildew and remove the stains. This should be followed by a thorough boiling out, using 5% of soda ash and 3% of soluble pine oil, boiling for an hour or more. The goods are then given a thorough rinsing with cold water.

They should next be bleached cold with sodium hypochlorite containing about ¼% of available chlorine, for several hours, or until the bulk of the stain is gone. The fabric is then rinsed and given an anti-chlor with bisulfite of soda until all traces of chlorine are removed. After a final rinsing, the goods are ready to be dyed. Before dyeing, it is advisable to inspect the pieces, in order that any traces of mildew stain still showing can be put into medium and dark shades. If the stain remains, there is little chance of dyeing light shades successfully.

Sometimes stains in the goods appear to be mildew, when in reality they are iron stains. A few of the stains can be treated by dipping the goods in a strong hot solution of oxalic acid. The acid can be dissolved in a beaker, and a few of the stains can be dipped into the hot solutions. If this removes the stain, the goods can be treated with the oxalic acid solution after the boil-out. The goods should, of course, be thoroughly rinsed and neutralized after the oxalic acid treatment.

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Tinting Crepe Yarns for Twist Distinction

Will you please advise us in detail how tinting is put on crepe yarn to distinguish straight from reverse twist? We should like to know also what colors are used and how applied on all-cotton, cotton-and-rayon, and rayon-and-wool mixtures? (7646)

Tinting is applied by throwsters to raw silk or to untwisted rayon, but never to the twisted yarns. In the case of silk the bundles are opened and lightly headed-up or enclosed in light nets or cheese-cloth bags and immersed in the soaking emulsion which contains the tinting color at a temperature of 85° F. The emulsion generally consists of soap and neats-foot oil boiled together, or of some self-emulsifying oil produced especially for the purpose. For rayon, it is usual to use an emulsion of mineral oil and sulfonated oil. The amount of color is usually 2 oz. per 100 gal., which is sufficient to color 100 lb. of raw fiber. After soaking for several hours, the bundles are taken out and the excess liquid removed in a centrifugal extractor. They are then hung up to dry, after which they are twisted. If one of the newer types of silk-soaping machines is employed, the soaking time is reduced, but tinting is carried out in the same manner.

Pinks, yellows, oranges, and other brilliant colors are usually used for right-hand twist, while grays, greens, blues, and dull colors are used for left-hand twist. Ordinary acid dyes are suitable for silk; neutral-dyeing acid colors, direct, or basic dyes should not be used. A few acid dyes are suitable for rayon, but the number is limited as compared with those applicable to silk. Acetate yarns have a still more limited number, but the addition of wool or cotton need not cause any change in the colors that would answer for rayon.

Suitable colors may be secured from any of the larger dyestuff manufacturers.

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Removal of Lubricant from Worsted Yarns

Technical Editor:

We are having a certain amount of difficulty in connection with dyed yarns used in the production of plain broadloom carpet. We find that it is extremely difficult to scour the lard oil or other lubricant out of the yarn.

Will you be kind enough to give us your opinion as to the following points: (1) What oil is used for oiling the dyed stock; (2) Percentage of oil to water to make up the emulsion; (3) Quantity of emulsion used per 100 lbs. of wool stock; (4) What type of emulsifier is used; (5) When it comes to dyeing the yarn, what type of dye is used; (6) Number of rinse waters. The blends of wools used are China, Bagdad, East India, and Persian Gulf. (7651)

It has long been the custom of carpet yarn mills to use lard oil for making emulsions. While this is a good lubricant, lard oil of the best quality should be employed; otherwise if any remains in the yarn after scouring, it may turn rancid. Some grades of olive oil also will develop an odor if not entirely removed. In scouring, an adequate amount of soda ash must be employed to remove these animal and vegetable oils. There are several very good blended oils on the market, which are being used by carpet manufacturers. The general opinion is that there is no more, and possibly less, difficulty experienced with good blended oils than with average animal or vegetable oil.

A good staple emulsion can be made by using 35% of oil and 65% of water. In the case of oils which are not self-emulsifying, soda ash or borax is employed to put them into emulsion form.

The quantity of emulsion to use depends largely on the size of yarn to be made and the condition of the raw stock. The average would run from 8 to 12% of actual oil, which if figured on the formula given above, would be from 12 to 18 qt. of emulsion to 100 lb. of stock. Emulsifying is accomplished by agitating with paddles or by a special arrangement attached to the tank or barrel.

The type of dyestuff to be employed depends largely on the fastness requirements. Both acid and chrome colors find extensive use in the carpet industry. In either case, thorough scouring is necessary.

If good exhaustion is secured in dyeing, one rinse water should be sufficient to remove any excess color.

There are on the market valuable aids for scouring. They are solvent in action and help to give level dyeing.

Trouble in Dyeing Mixed Yarn

Technical Editor:

We are trying to imitate the inclosed yarn, but find that our finished yarn does not take the dye the way it should. We should greatly appreciate your telling us what stock was used in this yarn. (7641)

The yarn is a mixture of oil-delustered viscose rayon and of animal hair resembling wool. Inquiry of the suppliers of rayon will undoubtedly give a satisfactory source of supply of oil-delustered viscose waste. The dyes selected must be such as will dye both delustered viscose and animal hair.

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Knitted Fabric Uneven

Technical Editor:

We should like if possible an explanation of the irregularities in the enclosed sample. We are experiencing the same difficulties in blue yarn of the same size. The fault is not apparent in the skein. Any information you might be able to give us would be greatly appreciated. (7614)

We have carefully examined this fabric and the yarns of which it is composed. We find that the yarns are uneven. If the yarn is raveled from the piece and wound in coils about ⅛ in. apart on a stiff white card 8 to 10 in. long, it will be quite apparent that it is thick and thin. This affects the twist to some extent, because the twist tends to run to the thin places, which makes those spots seem even thinner. This leaves the coarser places less twisted and so, abnormally bulky. We cannot find any trouble with the knitting itself and feel that the yarn from the cones, wound as indicated above, will show the same unevenness.

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Chiffon Circular Stockings

Technical Editor:

As I am interested in manufacturing pure-thread silk chiffon stockings from top to toe on 3½-in. 300-needle, Scott & Williams Model-K machines, I should like you to kindly tell me the size or number of silk required for top, leg, heel, toe, and splicing. I shall employ fashion marks, reduced or curved heel, and picot-top attachments. (7612)

Either four-thread, five-thread, or six-thread, 13/15-denier silk may be use in 300-needle chiffon stockings for the leg and foot. In either case we advise the use of two threads of the same silk that is used in the leg for the heel and toe. The top should be made of six-thread silk. For splicing, a three-thread silk of good quality will give satisfactory results. However, in certain cases a splicing thread of the same size as the leg and foot yarn is used with good results.

The following gives a complete analysis of a 300-needle reduced-heel stocking: size, 9; length of leg, 31¼ in.; (length of boot, 28½ in.; length of top, 3 in.); length of high splice, 2⅜ in.; needles, 300; cylinder, 3½ in.; weight of one hose, 218 grains; top, six-thread silk; leg and foot, six-thread silk; heel and toe, two threads of six-thread silk; splicing thread, three-thread silk.

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Finishing Linen Thread

Technical Editor:

We are enclosing herewith a sample of three-ply linen thread. We shall appreciate your opinion as to what kind of a preparation is used in finishing and whether it is applied on the finishing machine or on the winding machine. (7642)

The finish on the three-ply linen thread apparently is produced with beeswax. The finish can be applied on a Luther double-brush dressing machine by using melted beeswax in the size box. The size box should be provided with a closed steam coil. After the thread has passed through the size box and under the squeeze rolls, it is skyed about 4 ft. into the air to allow the wax to set. It is then brought down and passed over both brushes for polishing and brushing off the excess wax.

We suggest that you put a banner between the two brushes to prevent the first brush from throwing the excess wax on the take-up. This banner can be made of a wooden frame faced with burlap or canvas, and can be hung from the ceiling low enough to catch the throw from the first brush. It probably will be necessary to use a small amount of lamp black with the beeswax; otherwise the thread will have a grayish cast due to the wax on the outside of the finish. About 4 oz. of lamp black to 25 lb. of beeswax should be sufficient. You can obtain the required degree of tackiness or stickiness by regulating the draft on the dressing machine.

It is advisable not to allow the thread to stand too long on the take-up spools before winding; otherwise it might cause some inconvenience in back-winding from spools to tubes. If the finish is too tacky, a small amount of beeswax can be eliminated and replaced with paraffin wax.

Inquiries should give the fullest information possible; and if damaged material is involved, a sample should be sent. We give no consideration to anonymous inquiries and do not undertake routine analysis of yarn or fabric, or investigation involving unusual expense.

Curling Astrakhan Yarns; Twists for Kid Mohair

Technical Editor:

I am looking for information on the curling, setting, and uncurling of astrakhan yarns. I am employing hand-curling and uncurling, but cannot seem to meet with success in the winding back of the finer yarns. We boil the curled yarn for eight hours, and I feel that this is too long a time. Any information on this will be greatly appreciated.

I have another inquiry: I should like some information as to twists in 1/20, 1/24, 1/26, 1/30, 1/36, and 1/40 in a fine kid mohair for knitting jersey for the Baby Angora cloth that is being made—also some idea as to the steaming of this yarn and any kind of emulsion that might be used on the winding to give strength. What spindle speeds are desirable? (7645)

The curling of astrakhan yarns depends upon the amount of twist being applied to the single yarn in the spinning process in both frame- and mule-spun yarns. This applies to worsted, woolen, and shoddy yarns. An ample number of turns of twist will aid you in the winding back of the finer yarns.

We suggest that before boiling the curled yarn, you give it a thorough steaming for about one hour on bobbins or tubes that have been treated to stand the steaming process. This will of course cut down the time of boiling by at least four hours. If excess boiling is carried out, the tensile strength of the yarn will be materially reduced.

The steaming process is best accomplished by placing the goods in baskets and putting these inside a steam chest. The baskets should be well covered. If you are not at present equipped with a steam chest to hold twelve or more baskets, we suggest that you try two baskets in a clean, tight barrel having about four 1-in. holes. The top should be covered with burlap.

The following twists are recommended for kid mohair yarns to be used for knitting jersey cloth for the Baby Angora fabric.

1/20s— 9	turns	1/30s—11	turns
1/24s—10	turns	1/36s—14	turns
1/26s—10¼	turns	1/40s—15-16	turns

These twists apply to the Bradford system, cap- or flyer-spun yarns. We suggest the use of light olive or palm-olive oil emulsion, not over one part oil to six parts water, to be used in your winding process. This will aid in the winding or spooling of these yarns.

To give these yarns full tensile strength, care should be taken in the drawing department to use a good emulsion at the gilling process, and to prevent over-drafting in both drawing and spinning. This will insure a good level yarn, free from "twitty" or uneven places.

These yarns may be steamed about one hour, using direct or live steam. The bobbins or tubes should be treated to stand up under this process. The spindle speed should not exceed 4,600 to 4,800 r.p.m.

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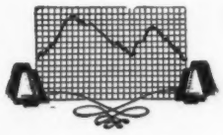
◆ *Survey of Fabric, Knit Goods, Yarn and Raw Material Markets* ◆

TEXTILE WORLD ANALYST



Frozen Credit an Impediment to the Upturn

By Dr. L. H. Haney

PROBABLY the most important obstacle to business recovery continues to be the large amount of frozen credit. Banks in many communities are still far from being in a liquid position. This, of course, explains the rather numerous bank failures and forced mergers. In a very real sense such failures and mergers represent progress toward a liquidation of credit, and ultimately they will strengthen the credit situation. Immediately, however, they are blows to the communities affected and tend to shake public confidence. The ratio of the loans and investments of all the reporting member banks to their total deposits is still rather high (over 108%), but the loans are being steadily reduced and more rapidly than are the demand deposits. In time this will restore liquidity. It is noteworthy that real estate loans have been a large factor in many cities.

Bank Credit and Commodity Prices

The condition of bank credit is connected with the continued decline in commodity prices, which is also one of the most important business depressants. The banks are tending to tighten up on their loans and thus to force liquidation. The majority of commodities have fallen lower in price during recent weeks and the declines have predominated in those basic raw materials the prices of which probably must be stabilized before any sustained business recovery can occur. Such commodities include pig iron, zinc, copper, hides, hogs, lard, tallow, cottonseed oil, cotton, gray goods, rubber and silver.

Also the weakness in the bond market is not unrelated to the bank situation. The weakness here is confined largely to the secondary issues and to various foreign bonds. To some extent the decline in such issues has hurt many banks, while at the same time the selling of bonds on account of failed banks, or as a precautionary measure by others, has put pressure on the bond market. Whatever the cause, it remains true that the bond market reflects uncertainty and timidity among investors. No sustained recovery in the stock market or in business is probable as long as this condition exists.

For the rest, we can put on the favorable side of the business balance sheet the following points: (1) Further progress toward stabilizing European financial conditions, and more cooperation in world affairs; (2) the prices of many individual commodities have held above preceding low levels, suggesting the gradual approach of stabilization; (3) the general process of liquidation and deflation appears to be in the final stage, and readjustment in "protected" wage groups is probably nearer; (4) stocks of zinc, lead, and cotton cloth have been reduced; (5) building permits spurted a little in July and building contracts awarded (in floor space) declined less than usual; (6) more progress has been made toward stabilizing the oil industry; (7) foreign trade in July fell somewhat less than usual for that month.

On the unfavorable side, however, we must list the following points in addition to the factors mentioned at the beginning: (1) Large stocks of many raw materials and of some manufactured products still exist; (2) commodity prices continue to decline; (3) employment fell off more than seasonably in July, and appears to be still on the decline; (4) retail trade has become more backward and department store sales are far below normal; (5) declines in unfilled orders indicate that forward buying is abnormally small (for example, steel and cotton cloth); (6) continued declines in automobile sales and production and in the life insurance business reflect low purchasing power; (7) contemplated new construction fell more than seasonably in July; (8) domestic copper shipments are down and the export demand is dull; (9) machine tool orders off again.

Further Readjustment

An appraisal of all these factors indicates that the preponderance of the evidence leads to the conclusion that a further period of readjustment will be required to allow the correction of maladjustments and a liquidation of frozen credit. It is doubtful if the irregular seasonal gains which will doubtless appear this fall will bring the average of

Summary: **The business outlook continues beclouded by the apparent necessity for liquidating frozen credit and correcting "hang-over" maladjustments. It hardly seems probable that we will be ready for sustained recovery this fall. But much progress has been made in getting ready for recovery. The textile industries have benefited from consumers' replacement demand for clothing. The low replacement margins of cloth manufacturers, however, suggest that caution in expanding output is desirable.**

The analysis and forecast by Dr. Lewis H. Haney, director, New York University, Business Research Bureau, which regularly appears on this page, considers various branches of the textile industry from week to week. The conclusions reached in the Analyst are mostly forecasts and generally apply to a time two or three months ahead. The Analyst is based on statistical data and does not reflect temporary trade sentiment.

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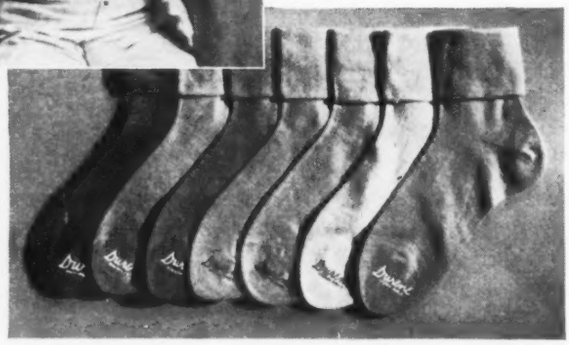

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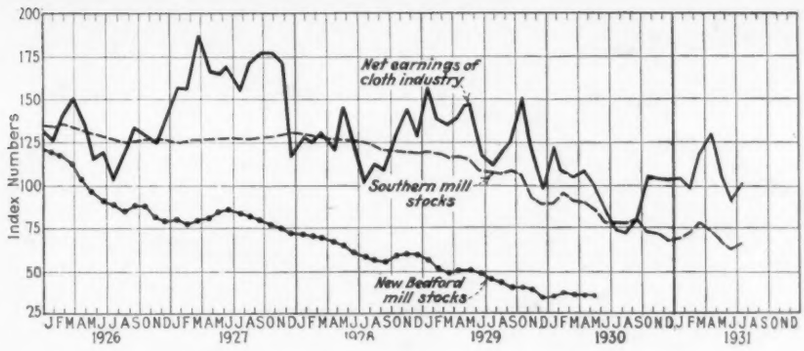
business activity and earning up as much as is normal for the season.

Cotton Mill Earnings Hold

The stimulus to cotton cloth buying which was furnished by the debt-moratorium proposal proved to be of temporary duration. Demand for cotton goods slumped in July and prices declined during the month. Since the raw cotton which entered into the manufacture of the goods sold in July was bought at higher prices some months ago, we estimate that the actual margin earned by the average manufacturer also declined. The average margin for the month, however, was probably a little better than in June, and this, together with a well sustained volume of production, caused estimated net earnings to hold about unchanged. Ordinarily earnings decline from June to July. The comparison with a year ago was also favorable.

The *current replacement margins* made a mixed showing. Cloth margins were lower in July, but gray goods and yarns showed slight gains. Probably the improvement in the last two was brought about by production curtailment in May and June, together with improved demand in late June and early July. In view of the recent convulsion in the cotton market, an immediate sustained gain is doubtful. Low-cost raw material, however, will utimately stimulate improvement.

Cotton mill stock prices averaged higher in July, but the decline in the earnings margin and the slump in sales of cotton goods will probably prevent further gains. Several months must elapse before the current low price of raw cotton is fully reflected in earnings margins. Until then, no sustained gain in stock prices is to be anticipated.


Net earnings of cloth industry
Southern mill stocks
New Bedford mill stocks
Index Numbers
200
175
150
125
100
75
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25
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1926
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1930
1931

Fig. 1. COTTON MILL EARNINGS AND SECURITY PRICES—Net Earnings in Cotton Cloth Industry—Computed from the cost of raw material, labor, fuel, etc., the price of finished goods and the volume of production (New York University, Bureau of Business Research). New Bedford Mill Stocks—Average price 25 New Bedford cotton mill stocks (New Bedford Standard). Southern Mill Stocks—Average price 25 Southern cotton mill stocks (R. S. Dickson & Co.).

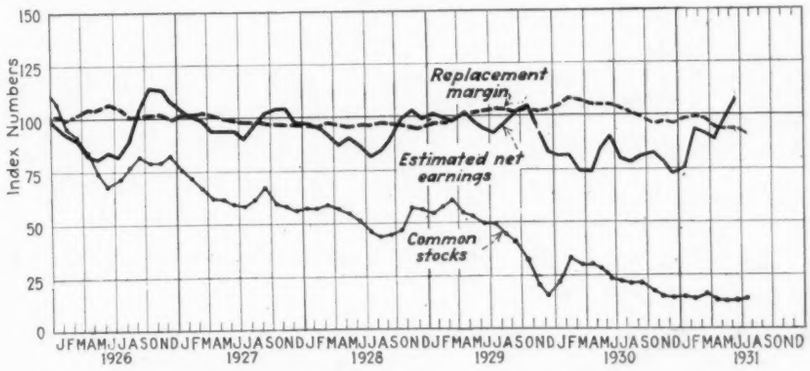
Replacement margin
Estimated net earnings
Common stocks
Index Numbers
150
125
100
75
50
25
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1926
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Fig. 2. WOOL MANUFACTURING EARNINGS AND WOOL MILL COMMON STOCKS—Net earnings in Wool and Cloth Industry—Computed from the estimated cost of raw material, labor, fuel, etc., the price of finished goods, and the volume of production (New York University, Bureau of Business Research). Replacement Margin—Computed from the cost of raw material and finished goods (New York University). Common stocks—Average of a representative group of common stocks. Average 1923-1928 = 100 for all indexes.

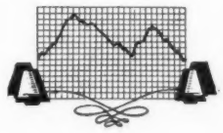
Wool Mill Earnings Increase

The estimated net earnings of the average wool manufacturer increased again in June. Preliminary estimates of activity (based on employment) indicate a further gain in July. Probably the earnings for the two months exceeded any similar period since 1923. The margins actually earned are fairly well sustained notwithstanding the unusually high rate of activity.

The *current replacement margins*, however, do not allow for any lag in raw material consumption, and consequently are the lowest in recent years. With cloth prices still easy and raw wool prices firmer, no improvement is yet in prospect. Perhaps this is one of the chief reasons why wool mill stock prices have not responded more actively to higher earnings estimates.

Stock prices in the wool group moved upward in June and July, but failed to reach the level of March. Replacement demand may have caused the wool industry to turn the corner earlier than general business, but until supply and demand conditions warrant improved replacement margins, sustained prosperity for the industry can not be taken for granted.

Market Briefs



Cotton: *Rally from low point does not convince traders.*

Cotton Yarns: *Buyers pressing for lower prices than spinners will accept.*

Cotton Goods: *Slow development with hopes for post-Labor Day trade.*

Wool: *Steady market with many sorts strongly held.*

Worsted Yarns: *Light business but spinners are firm and optimistic.*

Woolen Goods: *5% cut in spring fabric prices expected.*

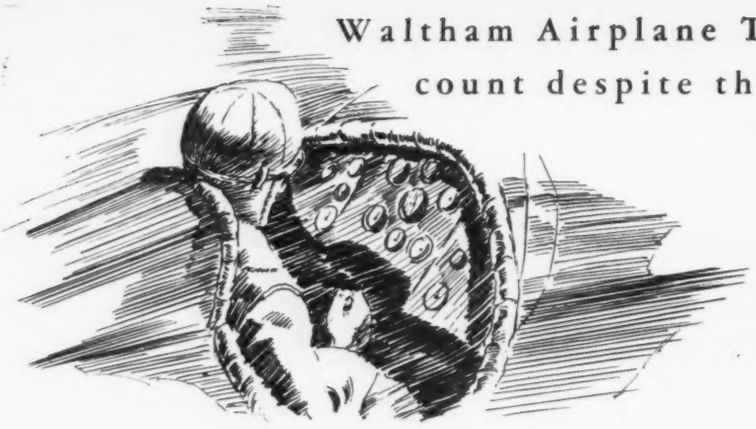
Silk: *Japan firmness brings price advance.*

Silk Yarns: *Spinners sell to velvet trade; thrown yarn quiet.*

Silk Goods: *Steady call for velvets, satins and cantons; prices are firmly held.*

Rayon: *Strong future coverage through to December; prices appear to be stabilized.*

Knit Goods: *Winter sweaters oversold; fall underwear active; higher-priced full-fashioned hosiery in good call.*



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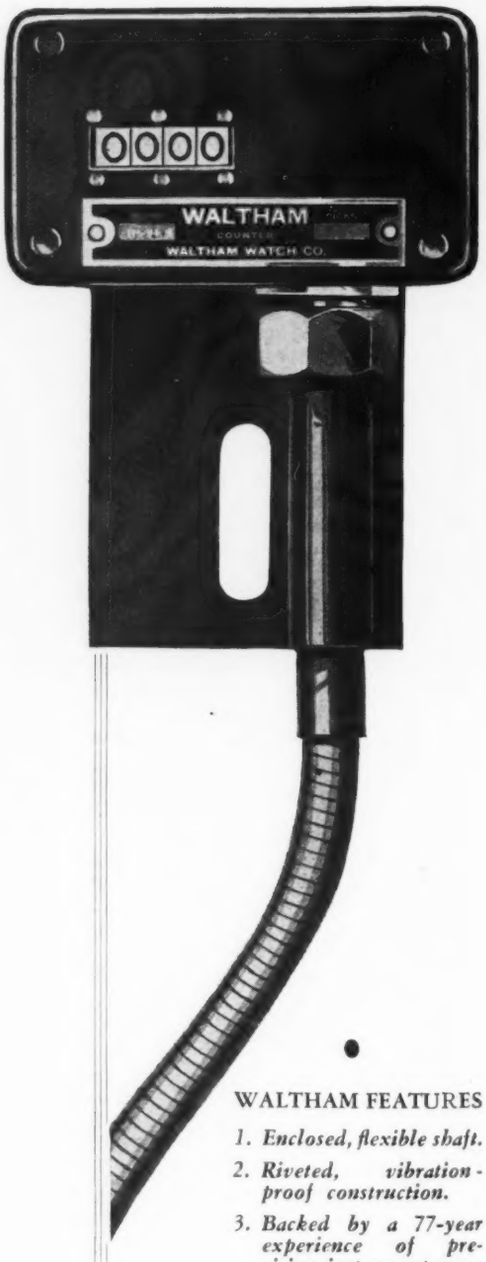

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YARNS AND RAW MATERIALS

TEXTILE WORLD ANALYST

◆Cotton Yarn Prices Seek Stability

THE cotton yarn market is still making efforts to find itself. Many dealers report improvement with a fair demand for spot yarns, but in general buyers are in a position to dictate prices. In such cases there is almost what might be called horse-trading on prices. The offers resulting from such trading are usually refused by spinners, but current reports seem to indicate there is occasional disposition to sell short, especially when 16c. is heard on 20s-2 warps. As a matter of fact, yarn prices are still confused. The usual differentials between various counts have almost vanished, and virtually nominal values prevail.

Future Interest at a Price

In addition to the demand for spot yarns, there are also evidences of inquiries for future delivery. These however are usually at a price. For example one manufacturer is trying to buy 20s-2 warps at 15½c., but from last reports he is still hunting for a seller. There seems to be little doubt that shrewd buyers are trying to take advantage of the situation and purchase yarns for future delivery feeling fairly safe in adding yarns at today's prices to their inventory. It is pointed out by many close students of the market that cheap cotton prices usually mean increased consumption; that under such conditions spinners' margins are much better than at higher levels, although low prices mean small returns for the seller. Reports are also heard that several large operators plan to take up large quantities of cotton to store for future needs, in some cases for at least two years. While it is admitted the weight of the world's supply of cotton is a factor which cannot be ignored, nevertheless it is believed that as the cotton market, together with yarn prices, become stabilized, there will be a gradual resumption of operations along normal lines.

Until such conditions develop, it will be difficult to expect anything like stability in prices.

Underwear manufacturers in Pennsylvania who had been operating under greatly improved conditions are said to be facing requests for revision of prices for goods from certain buyers. While much of this business had been for prompt delivery, there was also some for more extended periods, and this is where this situation arises. In view of yarn purchases made to cover these orders it can readily be appreciated what this means to the knitter. For 10s cones 14½c. is noted for mill delivery, with stock lots held at 16c. by some dealers. An order was placed with a mill for 18s at 16½c.; 30s carded cones are reported at 22 to 22½c.

Weaving Yarns Quiet

Weaving yarns are very quiet. Tapestry mills continue to operate in sluggish fashion. Plush mills are hoping for good results when salesmen get out on the road, as it is believed stocks of finished goods are nearly exhausted. A sale of 20s-2 warps for spot delivery was made at 18c., but 16½ to 17c. seems to be the general quotation; 30s-2 warps are held at 22c. for spot delivery, with offers made as low as 19½c. by some buyers, and 21c. the average asking price.

Combed yarns are also showing results of recent developments in further shading of prices, with 10s singles as low as 22c., 30s around 32c., and 38s at 35 to 36c. Mercerized yarns likewise have been affected. Prices for the most part are holding fairly well, but here and there isolated sales are reported at figures somewhat below prevailing quotations. Inquiry continues very limited for these yarns.

◆Cotton Quiet With Prices Steadier

AFTER making new low records for the movement toward the end of last week, a steadier tone developed in the cotton market with rallies of ½c. or more from the lowest attributed to trade buying and covering. December contracts which sold off to 6.79 on Aug. 20, rallied to about 7.35 toward the end of this week on a comparatively small volume of business. At times, however, the covering was active and some large long lines were bought in at the beginning of the week, the impression being that the possibility of something developing out of the agitation for acreage control in the South had caused the short interest more or less uneasiness. A comparative scarcity of contracts and the firmer technical position of the market following recent declines was a contributing factor on the advance, but the buying was not aggressive enough to indicate any particular change in sentiment or in the more or less general expectation of still lower prices as the new crop movement increases.

Cotton Legislation

Speaking generally, cotton traders here are extremely skeptical as to control of the acreage by legislation. It is considered quite possible that some States may pass such legislation, but that it will be effective only in case it is adopted by States representing 75% of the acreage, and it is not believed that such a majority can be obtained for the proposition. Considerable opposition has been reported to the plan, particularly in Texas, but the agitation for acreage reduction or farm relief in one form or another, has had a tendency to check short selling pending further developments.

While complaints of various sorts are becoming a little more numerous, the average cotton trader here believes that the crop has made somewhat better than seasonal progress during August. The weekly report of the Weather Bureau last Wednesday, however, read less favorably than previous reports and the possibility of rapid deterioration is being considered. Private end-August crop condition and indicated yield reports will soon begin to appear, and may afford a more comprehensive view of developments during the last month than can be obtained from such scattering advices as reached here from the belt.

Await Sept. 1 Report

There was an impression a week or ten days ago that the Government report due on Sept. 8 showing conditions as of Sept. 1 on the average, was more likely to show an increase than a decrease over the Aug. 1 indication. Recently the trade seems to have been a little less sure of its ground in this respect and the tapering off in the volume of business, has suggested a disposition to await this approaching report. Should it show a reduction in the prospect as of Aug. 1, the possibility of further deterioration during September either from increased weevil damage and shedding or from tropical storms would naturally be emphasized. Nevertheless, the trade is looking for a crop in excess of next season's probable consumption in any event, and feels that a more immediate problem is the absorption of the hedges which they expect to make their appearance in the futures markets as soon as the new crop movement begins to assume normal proportions.

The report of the Census Bureau showed ginnings of only 90,414 bales prior to Aug. 16 this year compared with 572,810 last year and 304,771 two years ago. These are the lightest ginnings to this date since the reports prior to Aug. 16 were started, but large crops are usually late crops and the figures were regarded without significance so far as indicating the ultimate outturn is concerned. Trade buying to fix prices or to hedge forward requirements has been reported, but it seems, from all accounts, that little cotton has been sold for forward shipment in the southern markets.

Meanwhile, southern hedging is increasing slightly but is still in very small volume, and a scarcity of con-

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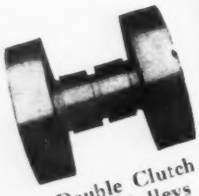
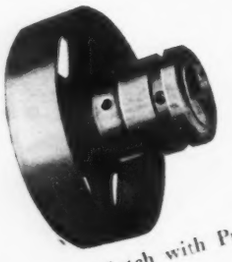
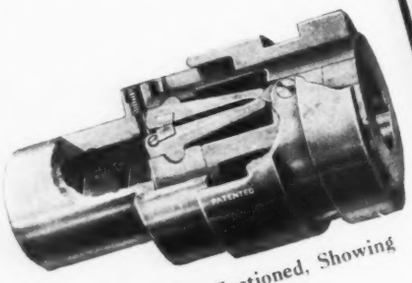


Double Clutch with Pulleys



Single Clutch with Pulley



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tracts develops in the market here whenever demand broadens. This has promoted rallies and judging from the light ginnings to Aug. 16, it may still be some time before the new crop movement becomes heavy.

Memphis Market Quiet

Memphis, Tenn., Aug. 24—Business in the cotton market here shows no signs of opening up, although it may not be long before the new crop arrives. The movement in this territory is expected to start about Sept. 7, if the rains quit. Basis is quoted unchanged from the previous week but, because of the low price of middling, it is expected that off differences will be narrowed somewhat. There are some also who expect that 1 5/16 and 1¼ in. and longer cottons will command smaller premiums because of the larger planting of 1 5/16 in. and longer seed varieties. Also, the staple is likely to be full because of plentiful supply of moisture. The bolls are large. Ideas as to the crop in the delta of Mississippi range from 500,000 to 700,000 bales, compared with 560,000 bales last year.

The writer made a trip through the delta as far southward as Greenwood during the week. North of Clarksdale there are very few weevils but the plant is rapidly losing its healthy color, because of excess moisture, and is already shedding heavily. Southward weevils are numerous and active and are likely to get practically everything not now safe. A moderate crop is reasonably safe from weevils, but the plant generally is large and inadequately spaced. There is danger of heavy losses from bollrot unless the weather is favorably dry. The weather during the week was unfavorably wet in this territory but was clear and cool over the week-end.

◆Cotton Wastes Dull; Prices Nominal

CONDITIONS in the cotton waste market show no change from those during the last three weeks. Buyers are still out of the market and prices are nominal all along the line. Activity is confined to odd-lot purchasing by consumers having need for a particular type of waste to complete orders already booked.

Prices are quotably unchanged from a week ago. Sellers continue to ask a basis of 80 to 84% for No. 1 peeler comber and 75 to 78% for peeler strips. Business in these spinning stocks is so small, however, that these values are purely nominal and have yet to be tested.

◆Worsted Yarns Await Activity

QUIET conditions continue to prevail in the worsted yarn market. Buying is almost entirely confined to small lots where needed. Spinners to a large extent are operating in good fashion on orders placed earlier in the summer on knitting yarns at lower prices. These yarns also are being taken in by knitters who are running on them and postponing any further purchases until further business compels addition to their supplies. In the meantime wool prices continue to hold firm. Spinners who had advanced prices on a par with higher wool costs are still holding for these higher levels; in many instances they have declined offers at lower prices where knitters have been making efforts to secure concessions. While this attitude has been fairly general, there are, however, certain spinners still willing to accept 92½c. for single 18s slub dyed, for which most spinners quote 95 to 97½c.

There is not, however, very much buying reported at this time, other than the scattered filling-in purchases previously noted. Bathing suit manufacturers are still waiting for some definite indication of the future. Lines are out and sampling has been done, but manufacturers still claim they do not know what developments they can expect.

Sweater mills have had some business on boys', and to some extent on men's light-weight fancy lines. Here 2-20s, 50s, are noted at around 95c., with 2-20s, 56s-58s, at $1.02½ to $1.05. Sport coat business is also noted in limited volume. Most of the purchases of knit goods have come from chain stores and jobbers handling the lower priced lines. Large retailers are not as yet buying, especially in the better class of zephyr lines. There is a problem here in the matter of price which has yet to be solved. Wools required for this class of goods are advanced in price, and spinners maintain these added costs must be met if this class of material is desired in any volume. Jersey cloth continues to show a certain amount of buying of single 26s at $1.07½ to $1.10. For 2-20s, 52s, spinners are asking 80 to 82½c. as a rule, but those knitters who are keen shoppers are said to find opportunities to buy for slightly lower figures.

Await New Men's Wear Orders

Weaving yarns have apparently slowed up. The rush on men's wear duplicate business is about over. Manufacturers are now waiting to hear results from their new lines, but from all accounts, buyers have not been betraying any great interest in operating. Similar conditions prevail in dress goods mills. Those mills making specialties are getting some business with chain stores furnishing the buying. The bulk of the mills are still waiting for business before they can intelligently buy the yarns they will need. Naturally there are some low prices heard as a result of competition for the limited business available. For 2-30s, 60s-62s, most spinners ask $1.10, but quotations around $1.07 are reported.

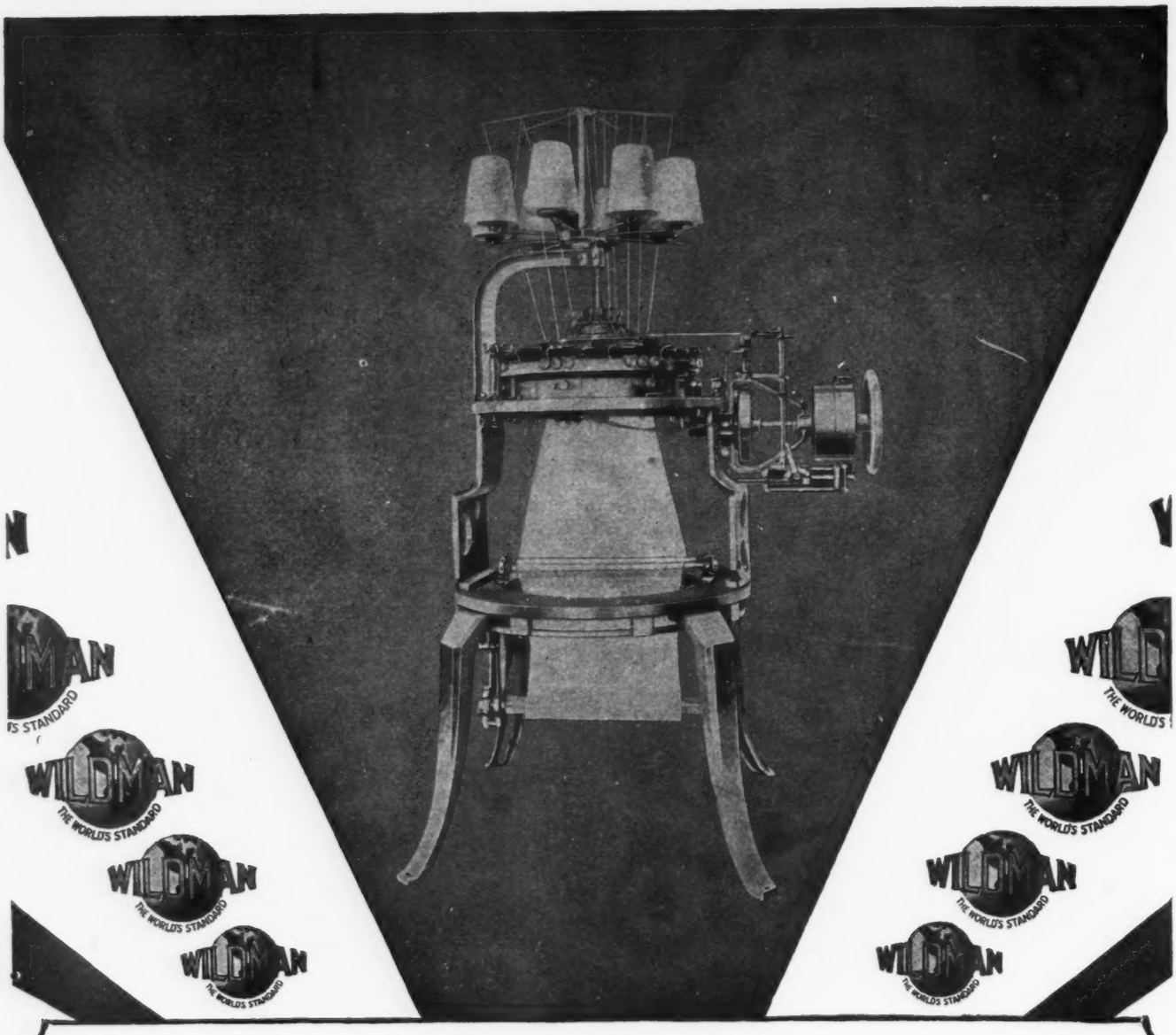
◆Mills Buying Wools With Less Urgency

MILL demand for wool is slower and it is not unlikely that a quiet period will now be seen until after Labor Day. The market, however, is fairly active on the finer western wools in original bags, at prices which have been current for the last five or six weeks. Graded wools of several qualities are slow, as buyers want immediate delivery while many firms are sold ahead of grading. Quotations are firm on all qualities of graded wools. Prices on the fine wools, running from 52c. on New Mexico combing wool up to 65c. on choice strictly staple Montana wool, indicate the stable range of values which has not been influenced in the least by the American Woolen Co. pricing spring fabrics on a lower basis at a time when the goods market and the wool market were both set for larger business at firm to rising prices.

The market in general is taking a breathing spell on the high level of the year. Price changes have been few for month to date, entirely in the medium wools and more specifically in medium fleece wools. The character of the wool buying at this time is featured by breadth rather than by volume. Mills having already bought large quantities of wool are proceeding a little more leisurely in their wool purchases, but continue to pick up the fine and French combing types in original bags. The quiet season between now and Labor Day is quite normal and particularly welcome this year.

Business offered in medium wools is not being accepted with any readiness. Most houses are under considerable pressure for delivery. The clothing varieties are in steady call, medium grades again featuring the situation. Prices are unchanged for the week with 24½c. the high on three-eighths blood combing and 22c. on three-eighths blood clothing.

Importers of South American wools are looking forward to better business on the opening of the new season. If mill demand for medium wools continues, imports of M.V. 50s and 56s will show expansion, it is believed. The



Many Rayon manufacturers consider the Wildman Machine the first essential to a *quality* product

WILDMAN MANUFACTURING CO.
Norristown, Pa.

WILDMAN
SPRING NEEDLE BODY MACHINE

YARNS AND RAW MATERIALS

TEXTILE WORLD ANALYST

cleaned-out South American market is in sharp contrast to New Zealand which has a carry-over of about 200,000 bales of which about 20,000 bales are slipes. London holdings of New Zealand cross-breds are estimated at 150,000 bales. The New Zealand clip is expected to be much smaller than last season, a loss of 2,000,000 sheep being recorded in the dominion.

The fifth series of London wool sales will open Sept. 15, but before that begins the initial sales of the new Australian season will occur Aug. 31 in Sydney. The strong position reached by merinos at the closing of the fourth series is not likely to be affected to any marked degree.

◆Gains Expected in Wool Substitutes

WHILE the manufacturing situation in woolens indicates better prospects for woolen rags and reworks, the time has not yet arrived for such probabilities to materialize. There is a better feeling in woolen circles and woolen goods are securing a better share of attention from the goods market. The best rags are so low-priced that there can be little obstacle placed in the way of substantial buying by consumers when the time is ripe. In the meanwhile if graders are not making any profit they are at least meeting to the full their obligations in keeping their employees at work.

There is no sizeable margin of profit between the prices paid for mixed rags and prices obtainable on the graded rags that can be sold. There is always considerable trading between dealers and this is perhaps the most active feature of the market, which perhaps accounts for reported offerings of light hoods as low as 10½c. and the purchasing of mixed rags as high as 5½c.

The seasonal quietness creeping into the worsted wool market is not having any affect on worsted wastes where demand, though in small compass, is quite steady with a better prospect ahead of larger buying from woolen mill sources sometime next month.

Imports of wool waste into the United States for the first half of this year showed a decrease of 68% as compared with the first half of 1930.

Noil prices are very low, but so also are wastes and wools, and the market generally speaking is operating in a zone of competition quite unfavorable to any large expansion of noil values.

In the Bradford market export business is quiet and the general feeling is one of caution owing to the serious financial condition in Germany. American buying at this time is practically nil.

◆Velvet Call Swells Spun Yarn Sales

DEMAND for velvet fabrics has increased interest in spun silk yarns, and spinners received considerable business from pile goods manufacturers this week; the total was small but it is regarded as significant in view of the very strong position of velvets this season. Spun yarn sales to that branch of the industry are expected to take a jump late in September when duplicate fabric orders begin to come in. Spun yarn is quiet in all other markets. Stocks are small and production is cautious. Prices remain as is.

Occasional inquiries from hosiery mills are the only break in the lull this week in the thrown yarn market. Throwsters are resigned to several more weeks of quiet, and are holding down strictly on their production of yarns, pending market improvement. The trade is encouraged by the fact that this summer's turnover has shown a trend to better quality yarns, and they view this as denoting increased confidence. The silk strike, while it has cut demand temporarily, will benefit throwsters in the long run by building firmness among broadsilk mills generally, it is believed. The yarn market looks for some congested buying in September, as the smaller silk mills have pratically no stocks of yarn on hand.

◆Yokohama Position Firms Silk Prices

JAPAN'S sustained firmness has brought a tightening of raw silk prices in the New York market, this despite the lethargic attitude of buyers in this country. Prices of 20/22s and cantons are 10 to 15c. higher than they were last week. Demand from broadsilk weavers is uneven; some importers note a slight increase in spot coverage while others complain that August is the poorest month they have had in years. Raw stocks are somewhat larger in New York and importers have no difficulty in meeting spot call.

The silk market at present seems to be suffering from exterior influences, such as the cotton break, and the European financial situation. Viewed vertically, silk itself is sound enough. Broadsilks are moving steadily and at reasonable levels; production is cautious which point should help the primary market in the long run though temporarily it means a slackening. The importers insist that the strike is a minor element, and they are waiting increased fabric sales to spur demand. The hosiery outlook offers hope for better buying in September; knitters still hold off, as production is moderate and they have enough silk for immediate needs; but their raw supplies are light, and any augmentation of output will compel active buying.

Developments outside the industry will play a large part in silk price movement during the next month. Importers themselves are divided as to the prospects; a series of fluctuations which would bear downward is the most likely outcome, though some factors still look for an advance. Broadsilk mills would not respond to any strengthening; they resist even current levels, and in view of their important position as an outlet, it is difficult to see how silk could move at higher levels.

Yokohama plays an important part in the present deadlock, prices there holding steady with little prospect of early weakness. Exporters in Japan regard the warehoused stock of about 112,000 bales as definitely out of the market which leaves only 30,000 bales for movement.

◆Rayon Yarn Selling To End of Year

NEARBY rayon coverage has slackened somewhat, but future demand continues strong. The yarn market approaches the fall in a very firm position, and prospects point to greater firmness after Labor Day. Underwear knitters are still the most active buyers, though their leadership has been cut down considerably; it was roughly estimated this week that yarn sales to weavers and knitters were now very close to 50-50. Consuming industries grow daily more confident regarding their own outlook for the coming season. Leading rayon companies have sold almost their entire output of the more popular yarns for September, and orders to date take care of about 25% of the October production. Knitters are buying into November and a few orders covering requirements to the end of the year have been placed.

The let-up in spot demand has brought about an easier stock situation and some companies are able to make immediate delivery on small orders; stocks on hand in plants are very light however, and resumption of active nearby buying will soon tighten the market once more. The current let-up is only comparative; plenty of orders are coming in, and the fact that the total of spot contracts is less than a week ago is attributed to a temporary mid-summer lull. Actually,

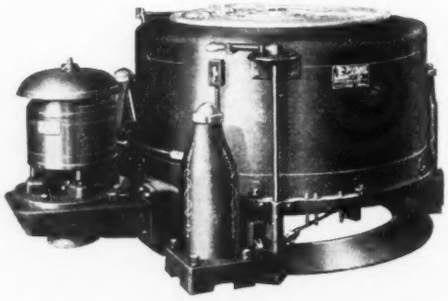
(Continued on page 61)

SUPER... the machine that delivers "*firsts*"

The 30x36" American Super monel metal Rotary Hosiery Dyeing Machine—popular for dyeing hosiery in lots up to fifty pounds.

THE compact Super's silk-finish cylinder insures the sheerest hosiery against injury. Its quick and thorough penetration means streakless dyeing on every class of silk, rayon and combination fibre. Top-quality dyeing. And rock-bottom production cost.

The Super is handling ton after ton of hosiery in the foremost plants of the world. The Super is *your* kind of a dyeing machine. Investigate.



Another famous machine which has reduced seconds to a minimum in foremost hosiery mills —the 40" American O-T Extractor, with monel metal basket.

THE AMERICAN LAUNDRY MACHINERY COMPANY
CINCINNATI, OHIO

FABRIC MARKET REPORTS

TEXTILE WORLD ANALYST

◆Slow Development in Cotton Goods

THE cotton goods market is moving slowly, but merchants hope surely, toward the goal of better business. Many selling houses have found the period since the Aug. 1 cotton report to be very quiet, but it is concluded that the longer buyers withhold the keener will be their urge to operate when they finally let themselves go. Fall distribution is the stimulus which will probably start the ball rolling.

The slight recovery of raw cotton from the record lows registered last week has not been accepted as convincing by the majority of traders. The apprehension that it is only a technical rally and that the low point of the market will come when the crop begins to move in its full weight is the moulding force behind many traders' position on the market. This last named expectancy is so widely held that anticipation of it may be the very condition which will make its realization impossible.

Another factor to reckon with is the next Government crop report to be issued early in September. If this does not confirm the estimate of 15,584,000 bales, the market may easily react toward higher levels. If any suggestion of improvement in general business comes along, cotton will doubtless show quick reflection of any bullish influences. As it now stands evidences of improvement in the cotton industry are without much influence since traders see them through glasses tinged with the color of general business.

Only Spot Gray Goods Sell

In the gray goods field there has been little interest in contracts. Buyers are covering nearby needs cautiously and for some houses this activity bulks to a fair total of business. There is steady interest shown in print cloths, but much of it is only for the purpose of keeping in touch with the market. The spot situation is described as strong, but no broad interest is expected before Labor Day. However, a fair quantity of 68x72s changed hands during the week at 4⅞c.

A leading seller reports that business in osnaburgs and coarse sheetings for the manufacturing trades has shown improvement and that its sales in this branch last week actually exceeded production. Fair activity in sheetings is also reported from the bag trade.

Rayon specialties are a strong feature of the cotton goods market. Not only has there been a good distribution of such goods during the last few months but converters are continuing their interest and have prepared lines which should maintain consumers' interest through the fall and winter season. There is a broader field for these goods than heretofore and the broadening trend continues. The goods are less tied up with the fluctuating price of cotton in the minds of buyers and they are more prone to cover their needs without considering a play to take advantage of the market.

September-October business in general lines of cotton is regarded as likely to be good because of the fact that buyers have been withholding from the market since early August.

◆Woolen-Worsted 5% Cut Forecast

WOOLEN and worsted fabric houses are becoming more and more resigned to the prospect of a price cut in the spring lines. Agents who discussed the point this week said they looked for a reduction of approximately 5% when the new levels are announced. These individuals are much disgruntled at the idea of having their margin further curtailed and they do not think that primary market conditions justify the revision. However, word is being passed about that the major companies will take the lead in cutting and the smaller firms will be forced to follow.

Suitings mills are still busy whipping their new lines into shape. Some interest is being manifested by buyers but the fabric trade does not look for a rush of orders to follow the openings.

The delay in opening would seem to argue for active coverage, but the prevailing hesitancy and uncertainty both among garment manufacturers and at the piece goods end tend to offset that. From present indications, it would be wiser for mills to go slow on spring production, and to limit output to little more than samples, until buyers show their hand. The stock situation on fall fabrics is far from encouraging, and a substantial carry-over is likely; this situation would be aggravated by heavy output of spring lines at too early a date.

Spring suiting lines will include a wide range of twists, as usual, with plains predominating; stripes will be very subordinate. Lively designs in conservative shades are favored; there will be numerous subdued novelties.

Overcoatings move fairly well; buyers continue their policy of deferring active coverage, and only a modest part of the season's business has been placed so far. Mills specializing in the heavier weights do not expect their winter lines to show real movement before mid-September.

Fall suitings demand has waned somewhat, and cancellations are more frequent, especially at the low-price end. The outlook for the next four weeks is doubtful; agents hope for active reordering as soon as the weather turns toward fall, but they refuse to do any forecasting. The credit situation is assuming serious proportions; numerous cutters of men's fabrics are in straits.

◆Broadsilks Active; Prices Hold Firm

BROADSILKS are active and market outlook is perhaps better than at any time this year. Cutters and piece goods buyers show interest and are covering freely on the major fall fabrics; while orders are nearby—except where future buying is necessitated by shortage—and contracts are small, the turnover represents a substantial total and levels are steady. The production situation is particularly pleasing; weavers are prone to overproduce when given the least encouragement, but this season they appear to be concertedly curtailing, despite a strong demand. The result to date has been a firm market on all fronts and in some lines, notably transparent velvets, a definite seller's market exists. While the profit margin on broadsilks generally is far from equalling that on transparents the net is better than it has been in some time.

The cue for broadsilk mills now is to carry on; continued caution in production and a determined effort to resist the constant temptation to jack up output, would make for a very satisfactory season.

Velvets continue the season's leading line from a quality point of view, and mills sell four to six weeks ahead; spot delivery is being made only on the less popular shades. Blacks, browns, wines and greens all are in spirited demand. Satins also are active, and demand exceeds supply in the more popular lines. Mills ask four weeks for shipment of current satin orders. Cantons move steadily, with prices not materially changed from opening. Cutters and piece goods buyers show unusual confidence in their own markets and they indicate that fabric movement will continue at pressure for another eight weeks.

The only distress stocks of any size now available are printed and plain flat crepes, mostly the former. These are moving at sharply reduced levels, but this clearance is not having any reaction on the prices of the current lines. There is also a slight overproduction of weighted cantons, which may prove serious unless mills watch their output during the next few weeks.

KNIT GOODS MARKETS

TEXTILE WORLD ANALYST

◆Mills Oversold On Fall Sweaters

COOL weather during the last ten days has brought the long-expected congestion in the heavyweight sweater industry. With retail demand less than a month away, the distributors are finding much difficulty in getting merchandise on time. Numerous of the leading sweater mills are sold to capactiy well into October, and only favored customers can get early shipment on orders now placed. While this has precipitated a seller's market, there is little cause for jubilation, even among knitters, as it all means lost business. Stocks of every type of winter sweaters are at minimum, and buyers are so hard pressed that they will accept practically anything they can get if they are assured of quick delivery.

Prices hold strong but there is no prospect of a definite advance. Assuming the current congestion grows more acute, it is likely distributors will offer premiums for spot. At present, they still hesitate on that score. The call covers the whole range of sweater lines, including medium and even lightweights. Pullovers are leading, with the coat models in second call. Dark shades are favored.

Bathing-suit manufacturers are now nearly ready with their 1932 offerings, and openings are expected to begin just before Labor Day; it is improbable that the entire swimsuit industry will open before mid-September. New line prices are still a matter of conjecture, but indications point to last season's level being maintained. The trade looks to larger initial business than usual at time of opening.

◆Winter Underwear Prices Steadier

HEAVYWEIGHT underwear is in a somewhat parallel position to heavyweight sweaters this week. Persistent delay in buying and cautious production at mills have brought about a congestion, and buyers have difficulty in getting September delivery. Underwear sales were somewhat more active than sweaters during summer however and the pressure now is less acute. It is a fact that 80% of the initial orders are in, but these are all so small that fill-in business should be quick and heavy. Many of the original contracts were little more than nominal, distributors relying on duplicates to carry them along.

The hesitancy due to the break in cotton prices has passed and buyers seem ready to accept price levels as they are. With demand well above supply prices hold steady, though little improvement at that end may be expected. The light stocks and the probability of a September seller's market had brought earlier forecasts of a price advance in mid-season; the cotton break appears to have definitely eliminated this possibility. Buyers are ready enough to meet levels but stocks are not so acutely scarce as to prompt any offers of premiums and it may be that quotations will remain unchanged throughout the rest of the season. Mills look for duplicate business to begin actively next week; this will be a certainty, if the weather is cool.

Lightweight lines for 1932 are now nearly ready for presentation but few openings are expected before Labor Day. Mill men report very little opening interest among buyers and this has tended to discourage early showings.

◆Quality Hosiery Demand Improves

MANUFACTURERS of medium to high-priced full-fashioned hosiery note a decided improvement of buying tone this week. Certain lines are selling 30 days ahead, and some mills have done better business in the last two weeks than for any similar period the entire summer. Mesh hosiery lines are in active demand, both in popular-price and the quality ranges. Knitters are more confident regarding outlook and believe that fall demand is now really on the rise. The activity is uneven, however, part of the industry still having difficulty in moving merchandise.

Distress stocks of full-fashioned are less evident, which is helping toward steadiness of prices. The talk of a fall price rise is lessening, and while market tone is better, it would be overoptimistic to rely on any advance. One sales agent remarked this week, "if prices of full-fashioned hold current levels, that is the best we can expect," and this opinion tallies with the market editor's observations among Worth Street agents generally.

Half-hose is in a discouraging position and there seems little prospect of any early improvement. Plenty of orders are being placed, mostly for low-priced lines, and all business is accompanied by bargaining. Levels are unstable; numerous mills are quoting at prices which clearly do not cover cost of production, and agents complain that the half-hose business at present is a matter of "trading dollars." The interest in quality lines which was manifest a month ago and which was viewed as indicating a trade-up trend, seems to have waned. Even 50c. numbers are sluggish.

▸Knit Goods Week in Philadelphia, April 11-15

Dates have been set for the 28th annual Knitting Arts Exhibition. It is to be held in the week from April 11 to 15, 1932, at the Commercial Museum, Philadelphia. These dates determine several trade meetings usually held in Philadelphia at the time of this exhibition, such as the annual meeting of the National Association of Hosiery and Underwear Manufacturers, and meetings of outerwear and full-fashioned hosiery groups.

▸Reading Hosiery Strike Proves Quick Failure

The full-fashioned hosiery workers' strike in the Reading, Pa., district lasted a brief twenty-four hours. Called on Monday by the American Federation of Full-Fashioned Hosiery Workers, it failed to win response of operatives, and on Tuesday the union announced that the strike was off. The strike was aimed at the numerous non-union hosiery mills in the Reading area, the Berkshire Knitting Mills in particular, the purpose being to bring wages in these plants to a level with those in unionized mills; the unionized mills have complained to the union that they will have to lower wages to meet the competition of non-union output.

The federation held a special convention in Reading during the week, and Thomas F. McMahon, of New York, president of the United Textile Workers of America, spoke at the opening session Tuesday. A strike committee statement declared that the strike was called off "to avoid needless sacrifices among the more courageous and intelligent workers in the mills." Emil Reeve, of Philadelphia, president of the hosiery union said that efforts may be made later to unionize the mills in the Reading district. A picket demonstration before the Berkshire mills at Wyomissing was the union's final gesture in the strike.

▸May Revise By-Laws of Hosiery & Underwear Assn.

A special committee appointed to recommend revisions in the by-laws of the National Association of Hosiery & Underwear Manufacturers is working on this subject and plans to hold a meeting at an early date, it is announced by Louis Richard Keeffe, acting secretary. The committee consists of D. L. Galbraith, American Textiles, Inc., Bay City, Mich.; Joseph H. Zens, Milwaukee (Wis.) Hosiery Co., and George F. Dickson, Minneapolis (Minn.) Knitting Works.

TEXTILE FINANCIAL NEWS

TEXTILE WORLD ANALYST

◆ Merrimack Passes Preferred Dividend

THE $2.50 semi-annual preferred dividend of the Merrimack Mfg. Co., cotton goods, Lowell, Mass., and Huntsville, Ala., has been passed by vote of directors, climaxing a series of dividend reductions by the company, the others having applied to the common stock. There are outstanding 16,500 shares of preferred and 27,500 shares of common. Dividends paid on the common stock between Sept. 1, 1928 and March 31, 1930 were at the annual rate of $12 per share. In June, 1930, the rate was cut to $6 annually, and in September, 1930, the common dividend was passed entirely.

The company's earnings record in recent years compares as follows: In 1927 there was a net profit before extraordinary charges of $1,111,368, equal after preferred dividends to $37.41 per share of common; in 1928 net profit totaled $1,307,581 on the same basis, equal to $44.55 per share of common. In 1929 net profits slumped to $507,885, equal to $15.47 per common share, and last year there was a loss of $2,157,607 after depreciation, taxes and inventory adjustments, but before credits of $1,858,092 from special contingency and inventory reserves.

Raybestos-Manhattan Profit

Raybestos-Manhattan Co., Bridgeport, Conn., shows a net income of $580,179 for the six month period ending June 30, 1931, equal to 86c. on 676,012 shares outstanding, after depreciation, federal taxes and inventory adjustments. In 1930 the corresponding period showed $825,499 earnings equal to $1.22 a share. For the second quarter net income was $338,976 after taxes and charges equal to 50c. a share. This compares with $241,203 or 35c. a share the first quarter. Company statements declare a steady trend upward during the current year.

Cash and marketable securities on hand July 31 amounted to $3,335,000 as compared with $3,221,000 Dec. 30, 1930. Current assets totaled $8,266,000 and liabilities $53,000, a ratio of 15 to 1 on July 31.

Raybestos-Manhattan, Inc., has declared a quarterly dividend of 40c. payable Sept. 15 to stock of record Aug. 31.

Powdrell & Alexander Profit

Powdrell & Alexander, Inc., curtain goods, which recently reported a net profit of $152,390, for the period from Jan. 1 to July 3, 1931, closed the period with a working capital of $1,445,026 compared with $1,610,801 at the close of the first half of 1930, when the company showed a net profit of $143,613.

Inventories on July 3, last, amounted to $1,435,835 against $1,425,464 a year ago. Current assets totaled $2,371,985 against current liabilities of $926,959.

Wabasso Profit Small

Net profits of Wabasso Cotton Co., Ltd., in the fiscal year ended June 27, 1931, were $3,648, after allowance for depreciation, bond interest, sinking fund and bond discount, the equivalent of 5c. per share on each of the 69,898 full shares of common stock outstanding. This compares with a deficit of $52,361 last year, and $109,677 in 1929.

Canadian Celanese, Ltd., Drummondville, Que., has declared its first dividend on a quarterly basis for the preferred stock since shareholders gave their approval of this form of payments. The current declaration is for 1¾% on the 7% stock.

▶ Southern Mill Stocks

(R. S. Dickson & Co., Charlotte, N. C.)

	Bid	Asked
Acme Spinning Co.	44	55
American Yarn & Processing Co.	36	45
Chadwick-Hoskins Co. (Par $25)	5	8
Chadwick-Hoskins Co., 8%, pfd.	79	82
Crescent Spinning Co.	40	47
Durham Hosiery, 6%, pfd.	18	23
Erwin Cotton Mills Co., 6%, pfd.	85	90
Flint Mfg. Co.	..	57
Flint Mfg. Co., 7%, pfd.	84	90
Hanes, P. H. Knitting Co.	6	10
Hanes, P. H. Knitting Co., 7%, pfd.	78	91
Linford Mills	40	51
Perfection Spinning Co.	44	60
Roanoke Mills, 1st. pfd. 7½%	40	48
Rosemary Mfg. Co., pfd., 7½%	71	..
Stowe Spinning Co.	40	51
WareShoals Mfg. Co.	..	90
Ware Shoals Mfg. Co., 7%, pfd.	..	85
Winget Yarn MillsCo.	..	42
Wicasset Mills Co.	115	135

(A. M. Law & Co., Spartanburg, S. C.)

Avondale Mills, Ala.	525	650
Bibb Mfg. Co.	84	88
Clifton Mfg. Co.	..	75
D. E. Converse Co.	..	60
Dunean Mills	70	85
Dunean Mills, pfd.	94	96
Gossett Mills	..	30
Hunter Mfg. & Com. Co., pfd.	75	80
Judson Mills, A pfd.	83	86
Judson Mills, B pfd.	79	83
Monarch Mills	70	75
Newberry Cotton Mills	..	75
Orr Cotton Mills	35	40
Pacolet Mfg. Co.	..	40
Piedmont Mfg. Co.	..	70
Riverside & Dan River Mills(Par $25)	7	9
Riverside & Dan River Mills, 6%, pfd	54	58
Southern Bleachery & Print Wks.,pfd	..	45
Spartan Mills	..	95
Union-Buffalo Mills, 1st pfd.	..	50
Victor-Monaghan Co.	39	41

▶ Fall River Mill Stocks

(G. M. Haffards & Co., Fall River)

	Bid	Asked
Algonquin Printing Co.	..	..
Barnard Mfg. Co.	7	..
Berkshire (com.)	6	8½
Berkshire (pfd.)	25	28½
Bourne Mills	14	..
Border City Mfg. Co.	4	..
Charlton Mills	..	48
Davol Mills	2	6
General Cotton	1	3
Luther Mfg. Co.	..	85
Merchants Mfg. Co.	..	..
Narragansett Mills	..	5
Pepperell Mfg.	65	68
Pilgrim Mills	29	..
Richard Borden Mfg. Co.	1	..
Sagamore Mfg. Co.	..	52
Shove Mills	..	5
Stafford Mills	..	1
Stevens Mfg. Co.	..	30

▶ Textiles on N. Y. Exchanges

The following shows the movements of the leading textile stocks listed on the New York Stock Exchange and Curb for the week ended Aug. 25.

	High	Low	Last	Change
Adams-Millis	30¼	29½	30¼	+ ¾
*Amer. Thread pfd.	3½	3	3	+ ½
American Woolen	8½	7¼	8¼	— ¼
Amer. Woolen, pfd.	36½	33¼	34	— 1½
Belding-Heminway	6¼	5	5¼	+ ¼
Botany Mills, A	3	3	3	+ ¼
Cannon Mills	20¾	20¼	20¾	....
Century Ribbon	5¼	5¼	5¼	+ ¼
Collins & Aikman	13¾	12¼	12¼	— ¼
Consolidated Textile	¾	¼	¼	— ¼
Gotham Hosiery	10	10	10	....
Industrial Rayon	34¼	30¼	31¼	—1¼
Kayser, Julius	14	13¼	13¼	+ ¼
Kendall, pfd.	55	52	54	—1
Mallinson	2¾	2¾	2¾	+ ¾
Mohawk Carpet	14	13	13¼	— ¼
* Pepperell	68¾	68¼	68¼	+2¼
Phoenix Hosiery	7	7	7	....
*Powdrell & Alexander	32	32	32	....
Real Silk Hosiery	6¼	6¼	6¼	— ¼
*Tubize	5¼	5	5	....
United Piece Dye Works	18	18	18	+ ¼

* Listed on Curb.

▶ New England Textile Stocks

	Sale	Bid	Asked
Am. Mfg. Co., pfd.	41	40	45
Amoskeag	8	..	..
Arlington	18½	24	26
Associated Textile	10	10	15
Bates	60	44	49
Berkshire Associates, com.	12½	6	8
Berkshire Associates, pfd.	40¼	23	26
Bigelow-Sanford, com.	31	..	..
Boott Mills	120½	70	80
Edwards	80¼	54	59
Esmond, pfd.	98	95	99
Farr Alpaca	35½	35	37
Hamilton Woolen	40	51	..
Hill	7	8	11
Indian Orchard	10	5	10
Ludlow	107½	104	107
Merrimack, com.	35	12	16
Nashua, com.	7½	8	10
Nashua, pfd.	29	28	33
Naumkeag	70	60	66
Newmarket	16½	14	18
Otis	45	42	47
Pacific	18½	..	..
Pepperell	67	65	68
Plymouth Cordage	63	65	68
York	8¼	6¼	..

▶ Rayon Selling to End of Year

(Continued from page 57)

buying is surprisingly voluminous for August, and further acceleration of sales is expected at the end of this month.

Producers show willingness to discuss the possibility of a price rise, but they are averse to committing themselves. While conceding that an advance would be technically sound, they are apprehensive of what would result from such a move. One sales manager commented: "It is difficult to visualize the result of a price rise; it might weaken sales seriously. We had a hard time reaching this present stability, and we will not be in a hurry to risk it."

The spirited buying has shelved the question of early mergers of rayon companies, apparently; there is no doubt but that increased turnover has helped the profit margin though, even conceding this, the return on investment in the rayon industry is very small. Producers do not look to their year-end statements with any enthusiasm, considering it lucky to break even.

QUOTATIONS

at close of business, Aug. 26, 1931

Prices cover average qualities unless otherwise stated

Cotton Goods

	Aug. 26	Aug. 19	Aug. 27, 1930
PRINT CLOTHS			
27 -in., 64x60, 7.60	2⅞c.	2⅞c.	4c.
38½-in., 64x60, 5.35	4¼c.	4¼–4½c.	5 c.
39 -in., 68x72, 4.75	4¼c.	4¼–4½c.	5½c.
39 -in., 72x76, 4.25	5⅛c.	5⅛c.	6½c.
39 -in., 80x80, 4.00	5⅛c.	5⅛–5¼c.	7 c.
BROWN SHEETING			
36-in., 56x60, 4.00	4⅜–4¾c.	4⅜c.	6½c.
36-in., 48x48, 3.00	5 c.	5 c.	7½c.
37-in., 48x48, 4.00	4¼c.	4¼–4⅜c.	5¾c
PAJAMA CHECKS			
36½-in., 72x80, 4.70	5¼c.	5¼–5½c.	6 c.
36½-in., 64x60, 5.75	4¼c.	4⅜–4⅝c.	4⅞–5 c.
MISCELLANEOUS			
Drills, 37-in., 3 yd.	5½c.	5¾ c.	8 c.
Denims, 2.20	11 c.	11 c.	12½c.
Tickings, 8 oz.	14 c.	14 c.	17½–17½c.
Standard prints	7 c.	7 c.	8 c.
Eastern staple ginghams, 27-in.	7 c.	7 c.	10 c.

Cotton Waste

(Prices Nominal)

Peeler comber	5¼– 5¾
Peeler strips	5 – 5¼
Sak. comber	5 – 6
Choice willowed fly	2 – 3
Choice willowed picker	2 – 3
Sak. strips	6½– 7
Linters (mill run)	2 – 3
White spooler (single)	5 – 5¼

Cotton Yarn

CARDED (Average Quality)

Double Carded 2c.—4c. higher according to quality

SINGLE SKEINS OR TUBES (Warp Twist)

4s to 8s	$0.14½	22s	$0.18½– .19
10s	14½	24s	– .19½
12s	– .15	26s	– .20½
16s	– .16	30s	– .22
20s	– .17	40s ex. qual.	.32½– .33½

TWO-PLY SKEINS AND TUBES

8s-2	$0.15	26s-2	$0.20½
10s-2	– .15½	30s-2	– .21½
12s-2	– .16	36s-2	– .28
14s-2	– .16½	40s-2	.29 – .30
16s-2	– .17	40s-hi.brk.	.32 – .33
20s-2	– .17	50s-2	– .37
24s-2	– .19½	60s-2	– .42

SINGLE WARPS

10s	$0.15 – .15½	24s	$0.19
12s	– .15½	26s	– .20
14s	– .15½	30s	– .22
16s	– .16	40s ex.qual.	– .33½
20s	– .17		

TWO-PLY WARPS

8s-2	$0.15	24s-2	$0.19
10s-2	.15 – .15½	26s-2	– .20
12s-2	.15½	30s-2	– .21
14s-2	.15½– .16	40s-2 ordin.	– .29
16s-2	.16 – .16½	50s-2	– .37
20s-2	.16½– .17	60s-2	– .42

8s-2 and 4-ply skeins and tubes; tinged; 14-white, 15; waste, 13

HOSIERY CONES (Frame Spun)

8s	$0.14½	22s	$0.18 – .18½
10s	.14½– .15	24s	.19 – .19½
12s	– .15	26s	– .20
14s	– .15½	30s tying	.20½– .21
16s	– .16	30s reg.	.22 – .22½
18s	.16½– .17	30s ex.qual.	.24 – .25
20s	.17 – .17½	40s	.29 – .30

COMBED PEELER (Average Quality)

TWO-PLY—(Knitting Twist) Cones

20s-2	$0.28 – .30	60s-2	$0.48 – .49
30s-2	.33 – .33½	70s-2	.58 – .60
36s-2	.35 – .35½	80s-2	.68 – .70
40s-2	.37½– .38	90s-2	.93 – .95
50s-2	.43 – .44	100s-2	1.08 –1.12

WARPS, SKEINS AND CONES

TWO-PLY—(Warp Twist)

20s-2	$0.30 – .31	60s-2	$0.49 – .50
30s-2	.33 – .34	70s-2	.61 – .62
36s-2	.36½– .37	80s-2	.70 – .72
40s-2	.38 – .39	90s-2	– .95
50s-2	.44 – .45	100s-2	1.12 –1.15

SINGLES

12s	$0.22½– .24	30s	$0.31 – .32
14s	.24½– .25	38s	.35 – .36
16s	.24½– .25	40s	.36 – .37
18s	.24½– .25	50s	.40½– .41
20s	.25½– .26	60s	.47 – .48
24s	.28 – .28½	70s	.57 – .58
28s	.30 – .30½	80s	.66 – .68

MERCERIZED CONES—(Combed, Ungassed)

26s-2	$0.45 – .47	90s-2	$1.18 –1.23
30s-2	.48 – .50	100s-2	1.48 –1.53
36s-2	.50 – .52	120s-2	1.88– 1.93
40s-2	.52 – .54	30s-2	– .59
45s-2	.54 – .56	40s-2	– .63
50s-2	.56 – .58	50s	.68 – .70
60s-2	.62 – .64	60s	– .78
70s-2	.75 – .77	70s	.88 – .90
80s-2	.87 – .88	80s	1.03 –1.08

Cotton Prices and Statistics

FLUCTUATIONS OF FUTURES

	Closed Aug. 20	For Week—High	For Week—Low	Closed Aug. 26	Net Ch'ge
August	6.38	6.86	6.38	.....	.....
September	6.45	6.95	6.45	7.01	+0.56
October	6.60	7.18	6.57	7.16	+0.56
November	6.73	7.20	6.73	7.29	+0.56
December	6.82	7.40	6.89	7.37	+0.55
January	6.91	7.50	6.89	7.46	+0.55
February	6.99	7.48	6.99	7.55	+0.56
March	7.09	7.68	7.06	7.64	+0.53
April	7.17	7.66	7.17	7.73	+0.56
May	7.26	7.87	7.23	7.82	+0.56
June	7.33	7.83	7.33	7.90	+0.57
July	7.41	8.01	7.38	7.99	+0.58

SPOT FLUCTUATIONS FOR WEEK

(Middling)

	New York	New Orleans	Liverpool
Thursday, Aug. 20	6.60	6.44	3.60
Friday, Aug. 21	6.65	6.44	3.70
Saturday, Aug. 22	6.85	6.63	3.74
Monday, Aug. 24	7.05	6.82	3.82
Tuesday, Aug. 25	7.09	6.72	3.78
Wednesday, Aug. 26	7.20	6.89	3.81

FOREIGN COTTONS

Egyptian Cotton

Alexandria Exchange, Aug. 25		Change
Nov. Sak	11.31	+0.41
Oct. uppers	8.06	+0.52

Sept.-Oct. Shipment c. i. f. Boston

(Tariff not included)

Fully good fair Sak	13.75
Fully good fair to good Uppers	10.75

(By Anderson, Clayton & Co.)

Foreign cottons	F. O. B. New York, Cents
Peruvian Tanguis Strict Middling	17
Peruvian Pima No. 1	16½
Peruvian Moderate Rough	13
Peruvian Full Rough	17
China Tientsin No. 1	8½
India Rough	7 to 9
India Smooth	7 to 9

(By Bruns-Nordeman Co.)

BASIS MIDDLING

	Saturday, Aug. 22	Saturday, Aug. 15
10 markets average	6.29	6.56
Memphis	5.85	6.05

PREMIUM STAPLES

First Sales from Factors Tables at Memphis

Grade Strict Middling	Prices Nominal
1⅛-in	8.65— 8.90c.
1 3/16-in	9.70— 9.90c.
1¼-in	14.75—15.00c.

CURRENT SALES

	For Week	Prev. Week	Week Before
Memphis total	4,188	2,996	4,953
10 markets	29,915	19,686	15,070

MEMPHIS RECEIPTS, SHIPMENTS, ETC.

	For Week	Last Year	Year Before
Net receipts	161	411	590
Gross receipts	4,046	5,194	4,586
Total since Aug. 1, net	1,221	2,526	2,639
Shipments	8,138	9,047	6,460
Total since Aug. 1	25,906	31,944	27,056
Total stock	89,507	134,887	38,951
Decrease for week	4,083	3,133	1,874
Unsold stock in hands of Memphis factors	10,930	28,287	.....
Decrease for week	612	*83	.....

* Increase

AVERAGE PRICE SEPT.-OCT. SHIPMENT HARD WESTERN COTTON

F.o.b. New England

	Middling	St. Middling
1 1/16-in	8½–8¾c.	9½–9¾c.
1⅛-in	9½–10c.	10½–11c.
1 3/16-in	11½–11¾c.	12½–12¾c.
1¼-in	15 –16c.	17 –18c.

Basis on New York, October 6.98.

SPOT FLUCTUATIONS AND STOCKS

Markets	Middling Aug. 18	Middling Aug. 26	Stocks Sales	Stocks This Week	Stocks Last Year
Galveston	6.40	7.00	615	388,679	196,562
New Orleans	6.34	6.89	1,223	551,664	306,976
Mobile	5.65	6.25	225	217,080	10,466
Savannah	6.00	6.56	191	337,979	139,050
Norfolk	6.31	6.88	469	48,505	44,470
New York	6.50	7.20	593	228,734	237,165
Augusta	6.13	6.69	564	64,159	52,967
Memphis	5.50	6.15	2,985	87,070	131,457
St. Louis	6.65	6.60	.....	.....	2,243
Houston	6.35	6.95	14,906	677,038	610,057
Dallas	5.95	6.45	12,766	5,463	10,511

DIFFERENCES ON AND OFF MIDDLING

WHITE GRADES

	Dallas	Memphis	Montgomery	Augusta	Average
M.F	.75†	1.00†	.85†	.75†	0.87†
S.G.M	.60†	.75†	.75†	.63†	.69†
G.M	.50†	.50†	.60†	.50†	.51†
S.M	.35†	.25†	.35†	.25†	.30†
S.L.M	.50*	.50*	.50*	.50*	.47*
L.M	1.00*	1.00*	1.00*	1.00*	.98*
S.G.O.**	1.75*	1.80*	1.75*	1.75*	1.62*
G.O	2.40*	2.05*	2.50*	2.25*	2.24*

YELLOW TINGED

G.M	.40*	.50*	.50*	.50*	0.46*
S.M	.65*	.75*	.75*	.75*	0.70*
M.**	1.25*	1.00*	1.25*	1.25*	1.14*
S.L.M	1.75*	1.75*	1.75*	1.75*	1.69*
L.M.**	2.50*	2.00*	2.50*	2.50*	2.29*

YELLOW STAINED

G.M	1.00*	1.25*	1.00	1.00*	.73
S.M.**	1.50*	1.75*	1.50*	1.50*	1.22
M.**	2.50*	2.00*	2.25*	2.50*	1.82

BLUE STAINED

G.M.**	1.25*	1.25*	1.25*	1.25*	1.18*
S.M.**	1.75*	1.50*	1.75*	1.75*	1.63*
M.**	2.50*	1.75*	2.50*	2.50*	2.23*

**Grades not deliverable on contract. †On Middling *Off Middling.

Wool

OHIO, PENNSYLVANIA AND WEST VIRGINIA (IN GREASE)

Fine delne..	$0.25½–$0.26½	¾ blood....	$0.23½–$0.24½
Fine clthg ..	.21 – .22	½ blood....	.22 – .23
¼ blood.....	.24 – .25		

TEXAS AND CALIFORNIA (CLEAN BASIS)

Texas, 12 months	$0.59 –$0.60
California, Northern	.52 – .53

PULLED—EASTERN (CLEAN BASIS)

A.A.	$0.62 –$0.65	B-Super...	$0.46 –$0.48
A-Super....	.50 – .53	C-Super...	.41 – .43

MONTANA, IDAHO AND WYOMING (CLEAN BASIS)

Staple fine	$0.61 –$0.63
Staple ½ bld.	.57 – .59
Fine and fine medium	.56 – .59
¾ blood	.49 – .51
½ blood	.44 – .47

MOHAIR—DOMESTIC

Best carding	$0.23 –$0.25
Best combing	.31 – .33

MOHAIR FOREIGN (IN BOND)

Turkey fair, average	$0.17 –$0.20
Cape firsts	.18 – .21

FOREIGN CLOTHING AND COMBING (CLEAN BASIS IN BOND)

Australia:	
70s	$0.53 –$0.55
64s	.46 – .48
58s-60s	.41 – .43

(IN GREASE)

Montevideo:	
58s-60s	$0.19 –$0.20
56s	.19 – .20
50s	.16 – .17
Buenos Aires:	
4s, 40-44s	$0.14 –$0.15
5s, 36-40s	.12 – .14

FOREIGN CARPET (GREASE BASIS IN BOND)

Aleppo washed	$0.22 –$0.24
China: Combing No. 1	.13 – .14
China Filling Fleece	.12 – .14
Szechuen ass't	.12 – .14
Cordova	.14 – .15
Scotch black face	.15 – .17
East India: Kandahar	.17 – .19
Vican'r	.23 – .25
Joria	.23 – .24

Worsted Yarns

ENGLISH SYSTEM WEAVING

2-20s 36s	$0.75 –0.77½
2-24s 40s	– .85
2-26s 44s	.87½– .90
2-28s 46s	.92½– .95
2-30s 48s	.95 – .97½
2-32s 50s	.97½–1.00
2-30s, 64s fancy mixes	1.37½–1.45

(Single yarns 5c. less than above)

2-36s, 58s	$1.17½–1.20
2-40s, 60s	–1.20
2-40s, 64s	1.35 –1.37½
2-50s, 66s	1.40 –1.45
2-60s, 70s	1.82½–1.85

ENGLISH SYSTEM KNITTING

2-20s, 44s in oil	$0.75 –0.77½
2-20s, 48s in oil	– .80
2-20s, 50s in oil	.80 – .82½
2-20s, 56s in oil	.90 – .92½
2-20s, 60s in oil	1.10 –1.12½
2-20s, 64s in oil	1.20 –1.25
1-18s, 48s dyed	.95 – .97½
1-18s, 50s dyed	.95 – .97½

(Oil yarns 17½c. less)

FRENCH SYSTEM

1-20s, 58s	$1.05 –1.07½
1-20s, 60s	1.10 –1.12½
1-18s, 64s, dyed	1.32½–1.35
1-26s, 64s	1.10 –1.12½
1-30s, 60s, Warp	1.20 –1.22½
1-30s, 64s, Warp	1.22½–1.25
2-30s, 64s, Fancy mixes	1.45 –1.47½
2-40s, 64s, Zephyrs	1.35 –1.40
1-50s, 66s	1.47½–1.52½
2-50s, 66s	1.50 –1.55
1-60s, 70s	1.85 –1.87½
2-60s, 70s	1.90 –1.95

FRENCH SPUN MERINO WHITE

1-30s, 50-50-58s on cops	$ .95 –1.00
1-40s, 50-50-60s on cops	1.10 –1.15
1-40s, 50-50-64s on cops	1.12½–1.15
1-40s, 50-50-64s Australian cops	1.20 –1.25

Underwear mixes, 3 to 5c., Solid color, 35c. additional.

New York Top Futures

	Closed Aug. 18	For Week—High	Low	Closed Aug. 25	Net Chg.
September	74.00	75.50	73.50	75.50	+1.50
October	73.50	73.50	73.00	73.00	—0.50
November	73.00	73.50	73.00	73.00	.....
December	73.00	73.00	72.00	72.00	—1.00
January	73.00	73.10	72.00	72.00	—1.00
February	73.00	73.00	72.00	72.00	—1.00
March	73.00	73.00	72.00	72.00	—1.00
April	73.00	73.00	72.00	72.00	—1.00
May	73.00	73.00	72.00	72.00	—1.00
June	73.00	73.00	72.00	72.00	—1.00
July	73.00	73.00	72.00	72.00	—1.00

Tops and Noils

TOPS—BOSTON

Fine (64-66s)	$0.85–$0.87
Half-blood (60-62s)	.78– .80
High ¾ blood (58s)	.70– .72
Aver. ¾ blood (56s)	.63– .65
Low ¾ blood	.60– .62
High ½ blood (50s)	.53– .55
46s S. A. and N. Z	.51– .53
44s S. A. and N. Z	.50– .52
40s S. A. and N. Z	.48– .50

TOPS—BRADFORD, ENG. (AUG. 22)

Fine (70s)	26 d	¾ bld. (56s)	16 d
Fine (64s)	23 d	½ bld. (50s)	12½d
¾ bld. (60s)	21 d	Cross-bred (46s)	10 d
¾ bld. (58s)	18 d		

NOILS—BOSTON

Fine	$0.38–$0.41	High ½ bld.	$0.31–$0.33
Half-bld.	.36– .38	Low noils	.27– .30
Aver. ¾ bld.	.34– .36	Medium colored	.24– .26
Fine colored	.31– .33		

Wool Substitutes

WOOL WASTE

Lap, fine white	$0.63 –$0.67
Lap, fine colored	.46 – .50
Hard ends, fine white	.50 – .52
Hard ends, ½ blood white	.33 – .35
Hard ends, fine colored	.22 – .25
Hard ends, medium colored	.15 – .18
Card, fine white	.22 – .25
Burr, fine Carbonizing	.27 – .30

OLD WOOLEN RAGS (GRADED FOR MFRS.)

Merinos, Coarse Light	$0.05	$0.05½
Merinos, Fine Dark	.03½–	.04
Merinos, Fine Light	.10½–	.11
Serges, Blue	.05½–	.06
Serges, Black	.05½–	.06
Serges, Red	.08 –	.09
Knit, White	.21 –	.22
Knit, red	.10½–	.11
Knit, Light Hoods	.11½–	.12½
Worsted, Light	.05 –	.05½
Worsted, Blue	.05½–	.06
Worsted, Black	.06 –	.06½

Silk Yarns

THROWN SILK (60 day basis)

	Nominal
Japan organzine, 2 thd. spec. gd. XX. sk. 85%	$3.90
Japan organzine 2 thd. grand sk. 83%	3.75
Japan organzine, 2 thd. sp. crack. sk. 81%	3.60
Japan crepe, 3 thd. gd. XX bob. 83%	3.70
Japan crepe, 3 thd. sp. crack. bob. 81%	3.55
Japan grenadine, 4 thd. sp. grand singles, 87%	5.00
Japan grenadine 3 thd. 90%	5.75
Canton crepe, 3 and 4 thd. 14/16 on bobbins	2.65
Hosiery tram, 3 thd. Japan 90%	4.80
Hosiery tram, 5 thd. Japan, 85%	3.65
Hosiery tram, crack XX 78%	3.30

SPUN SILK YARNS (Terms: net 30)

40/2	$3.10	60/2	$3.45
54/2	3.30	62/1	2.35

Raw Silk

(60 Day Terms. Spot Goods.)

	13/15 White	20/22 White	20/22 Yellow
Super Grand, 87%	$3.00	$2.60	$2.45
Special Grand, 85%	2.80	2.50	2.40
Grand XX, 83%	2.65	2.45	2.35
Special Crack, 81%	2.55	2.45	2.35
Crack XX, 78%	2.45	2.40	2.30
Extra Extra, 73%	2.40	....	....
Best Extra, 68%	2.35	....	....

Canton filature, new style, 14/16	$1.75
Canton filature, new style, 20/22	1.65
Tussah filature, 8 cocoon	1.05

NATIONAL RAW SILK EXCHANGE

	Close Aug. 19	For the Week—High	Low	Close Aug. 25	Net Chge
August	2.36	2.39	2.33	2.40	+.04
September	2.34	2.36	2.32	2.37	+.03
October	2.33	2.36	2.31	2.36	+.03
November	2.32	2.36	2.30	2.35	+.03
December	2.31	2.36	2.29	2.33	+.02
January	2.31	2.35	2.29	2.33	+.02
February	2.31	2.35	2.29	2.33	+.02
March	2.31	2.35	2.29	2.33	+.02

Total number of bales, 3,470. Total approximate value, $1,128,004.50. Trading unit crack XX 13/15 white 78%.

Domestic Rayon

VISCOSE PROCESS

Denier	Filament	First	Second
50	14	$2.15	$1.95
75	18–30	1.35	1.25
100	18–40	1.10	1.00
125	36–50	1.00	.90
150	30	.70	.67
150	24–40	.75	.72
150	60	.85	.82
150	75–90	.85	.82
170	24–27	.75	.72
170	60	.85	.82
200	30	.75	.72
200	35–42	.75	.72
300	42–62	.63	.60
450	54–60	.63	.60
600	72–96	.63	.60
900	100–144	.63	.60

NITRO-CELLULOSE PROCESS

Denier	First Qual.	Second Qual.	Denier	First Qual.	Second Qual.
75	$1.35	$1.25	150	$0.75	$0.72
100	1.05	.95	175	.75	.72
125	.95	85			

CUPRAMMONIUM PROCESS

Denier	Filament	Price	Denier	Filament	Price
15	24	$3.10	65	45	$2.00
25	24	2.85	80	60	1.70
30	24	2.60	100	75	1.35
40	30	2.40	120	90	1.22
52	30	2.20	150	112	1.10
			180	135	.97

ACETATE PROCESS

Denier	Price	Denier	Price
45	$2.25 2.75	120	$1.90
55	2.05–2.55	140	1.30
65	2.45	150	1.40–1.85
75	1.80–2.70	200	1.55
100	1.65–2.45	300	1.50

Rayon Waste

Open bleached waste	$0.13–$0.14
Open unbleached waste	.10½
Bleached thread waste (nfs.)	.09
Bleached thread waste (misc.)	.06– .07
Colored thread waste	.03– .04
Colored clips	.03– .04

CONVERTED RAYON WASTE

Bleached tops	$0.30–0.32½
Unbleached tops	.28– .29
Bleached noils	.11
Unbleached noils	.09½
Bleached garnetts	.12
Unbleached garnetts	.13
Colored garnetts	.10– .11

Silk Waste

Kibizzo Kakai Grand XX	$0.50
Kibizzo Kakai Triple Extra	.44
Frison Grand Double	.39
Pierced Cocoons	.30

▸ Engravers Organize to Suppress Design Piracy

The Master Engravers Guild, has been formed, composed of textile printing-roller engravers in New Jersey, to cooperate with the recently organized Master Printers Guild in efforts to suppress design piracy. George H. Phelps Engraving Co., Paterson, N. J., is president of the guild and George E. Stone, Textile Engravings, Inc., Bound Brook, N. J., is secretary-treasurer.

The new body is said to be an outgrowth of the meeting last December at the plant of Textile Engravings, Inc., Bound Brook, where 150 persons associated with the silk printing industry together with Congressman Vestal (proponent of the Vestal Design Copyright Bill) considered the evils growing from design piracy. The roster of members follows:

The George H. Phelps Engineering Co., Paterson, N. J.; G. H. Phelps, president.
Textile Engravings, Inc., Bound Brook, N. J.; G. E. Stone, vice-president and general manager.
Textigrave Co., Lake View, N. J.; John McLuckie, president.
Delagrave Co., Newark, N. J.; Andrew Stockman, president.
Arrow Textile Engraving Co., Paterson, N. J.; George Shule, president.
Thomas & George M. Stone, Newark, N. J.; Thomas L. Stone, president.
Paterson Engraving Co., Paterson, N. J.; Lloyd Young, president.
Passaic Engraving Co., Passaic, N. J.; Thomas Foxhall, president.
Highland Engraving Co., Clifton, N. J.; Dennis Grundy, president.
Pentograve Co., Lodi, N. J.; Mr. Ainsworth, president.
Progressive Textile Engraving Co., Lodi, N. J.; A. Leskowich, president.
Textile Process Engraving Co., Nutley, N. J.; A. McIntyre, president.
American Textile Engraving Co., Paterson, N. J.; Robert Young, president.
Laird Engraving Co., Bloomfield, N. J.; H. Laird, president.
Star Textile Engraving Co., Clifton, N. J.; L. Webb.
Central Engraving Co., Haledon, N. J.; Robert Maitland, president.
Modern Engraving Co., Newark, N. J.; Wm. Reim, president.

The officers of the Master Engravers Guild are as follows: George H. Phelps, president; George Shule, vice-president; George E. Stone, secretary-treasurer. The board of directors comprises the above officers together with Andrew Stockman, John McLuckie and Lloyd Young.

▸ Cotton Uniforms Adopted at Kendall Co. Mills

The operatives of the Thrift plant of the Kendall Mills at Paw Creek, N. C., are among the growing number of cotton mill employees now wearing cotton uniforms exclusively at their work in helping personally to effect an increased consumption of goods produced within the industry.

The male employees in the weaving and carding departments, as well as the overseers, wear white trousers, or overalls, with white shirts. Practically all of the women in the spinning room wear white short sleeved dresses of the smock type, although a number of those running speeders and warpers have adopted overalls for the sake of safety.

According to H. K. Hallett, general manager, the uniforms selected are white as a matter of personal cleanliness and to instill a spirit of cleanliness in the home as well as in the mill, the product of which is distributed principally through the hospital and drug trades.

▸ China Buying British Cotton Goods Result of Cheap Cotton

Decline in British price of American cotton from 4½d. to 3½d. per lb., has already had an appreciable effect upon the demand for cotton goods in one of Lancashire's chief markets. Before the American Government crop estimate, Manchester shippers experienced an improved cloth demand for China and some encouraging contracts were arranged. It was feared that the fall in prices would check this revival of buying but on the Manchester Royal Exchange at mid-August a considerable demand was reported, and in addition to numerous orders being placed, a substantial business was pending. The arrangement of contract terms has been helped by cheaper cotton. The bulk of the buying has been in poplins, especially in wide widths and many makers with wide looms are now fully sold to the end of the year. During the last few years Lancashire has met with severe competition in China from Japan but there are signs of English goods returning to favor.

▸ Wool Stock Group Accepts Its Trade Practice Rules

Rules of business practice adopted by the wool stock industry at a trade practice conference held in New York, July 25, 1930, have been further considered by the Federal Trade Commission. Those rules applying to practices deemed to be violations of the law were approved by the Commission and designated Group I, while others, accepted as expressions of the trade, were marked Group II.

Group I rules refer to such practices as maliciously inducing or attempting to induce breach of contracts between competitors; false packing or grading of wool stock; secret payment or allowance of rebates; defamation of competitors; sale of goods below cost with the intent or effect of injuring a competitor; giving or offering money or anything of value to agents of customers or prospective customers, or to agents of competitors' customers or prospective customers; and maliciously enticing employees of competitors.

The Group II rules refer to such subjects as arbitration; accurate methods for determining costs; a committee on trade practices; contracts as business obligations; willfully over-billing of shipments to obtain advancements of money or other valuable considerations; and approval by the industry of the definition of a qualified wool stock merchant "to be one whose principal business is selling wool stock to manufacturers and/or to dealers."

▸ To Hold Another Meeting on "Wool Week" Promotion

Col. Charles F. H. Johnson, temporary chairman of the National Wool Week committee, announced Aug. 26, that the enthusiastic response coming from so many divisions of the industry convinced him of the difficulty of appointing any committee of five or seven men who would be truly representative of the many sub-divisions, all of which occupy an important niche in the industry as a whole, and none of which, he feels, ought to be ignored. Therefore, he is contracting with various divisions of the industry with a view to securing representatives of each division who could and would serve on the committee. Following this he proposes to call a second meeting of the industry in New York for the purpose of laying before it the proposed increase in committee and to submit the names of such larger group.

▸ Broadsilk Sales Up 19.2%

Volume sales of silk piece goods during July were 19.2% higher than in July, 1930, although showing a decrease of 10.9% as compared with the previous month, the Silk Association of America, Inc., reports. For the first seven months of 1931 sales show an increase of 10% over the corresponding period of 1930. Stocks at the end of July were 20.5% lower than July, 1930.

▸ Boston Wool Receipts

Receipts of domestic and foreign wools at Boston, also imports at Philadelphia and New York for the week ended Aug. 22, based upon data compiled by the Department of Agriculture, follows:

	Week Ended Aug. 22	Total to Date 1931	Total to Date 1930
Domestic.....	3,273,000	205,603,000	208,678,000
Foreign.....	136,000	30,695,000	46,453,000
Total.....	3,409,000	236,298,000	255,131,000
IMPORTS AT PRINCIPAL PORTS			
Boston.....	136,000	30,695,000	46,453,000
Philadelphia...	1,411,000	36,337,000	33,099,000
New York....	791,000	34,343,000	30 [illegible]5,000
Total.....	2,338,000	101,375,000	110,147,000

▸ W. Montgomery Opens Offices

Wm. S. Montgomery, for the last 15 years connected with the Gastonia Cotton Yarn Co., and its successors, Armstrong Winget Mills and Textiles, Inc., Philadelphia, has resigned to engage in the yarn business on his own account with offices in the Beury Bldg., 3701 N. Broad Street, Philadelphia.

▸ R. H. Shaen Joins Cannon

R. H. Shaen, formerly identified with the Stevens Yarn Co., Philadelphia office, is now connected with the sales organization of the Cannon Mills, Inc.

▸ Talks to Retailers on Extending Use of Cotton

"This year especially, when the low price of cotton is a matter of so much general concern, more than usual attention and thought need to be directed to the subject of effecting a greater utilization of cotton," stated C. K. Everett, head of the New Uses Section of the Cotton-Textile Institute, in an address Wednesday night before the Southern Retail Merchants Conference at Richmond, Va.

Among the many interesting new uses mentioned by Mr. Everett were the following:

"An ingenious new use for cotton was recently demonstrated in a model city apartment, whose decoration is sponsored and developed by one of the well known woman's magazines. Nothing else than cotton chintz has been used as a wall covering in the living room with a pleasing effect. This job was simple enough for the average housewife to do herself. The measurements of each wall were taken and the proper lengths of the fabric were cut to fill the wall space and then sewed together. The fabric was next fastened with tacks to narrow strips of moulding put in place at the top, bottom and side extremities of the wall. A cotton braid was tacked on to cover the outside edges of the fabric. To decorate but a single room in even 10% of the nation's homes would require a staggering yardage that indicates the potentialities of this market.

"Several months ago the Cleanliness Institute started a survey of the hand washing facilities of the public school systems of America in which the Cotton-Textile Institute cooperated. In connection with this study actual service tests were made on cotton towels and other drying materials and equipment in the schools of Newton, Mass. Cotton towels have since been selected for standard equipment in the school where the competitive tests were made. The school principal reports that 'This choice was made not alone for their superior comfort and drying efficiency, but because they were found to be a definite factor in getting the children to wash their hands as the occasion required.' A new market of tremendous scope is thus revealed, for the hand washing study disclosed that very generally public schools are found to be teaching personal hygiene without giving to the children the opportunity to practice in the school washrooms what is being taught in the classroom about the danger of unclean hands."

Business News

Hercules Chemists End Cellulose Research in Germany

Three Hercules Powder Co. research chemists have returned from Germany to the company's headquarters at Wilmington, Del., within the last few weeks. They are Dr. E. J. Lorand, Dr. H. M. Spurlin, and Dr. Kyle Ward, Jr.

For the last two years, these men have been studying cellulose problems in Berlin. Dr. Lorand and Dr. Ward have been at the University of Berlin working with Prof. Hans Pringsheim, and Dr. Spurlin has been at Kaiser Wilhelm Institute studying with Prof. Herzog.

The higher fatty acid esters of starch and cellulose, osmotic pressure measurements of cellulose solutions, and new methods of degradation of cellulose have been the main research problems undertaken by the Hercules representatives.

Tagliabue Company Advances A. F. Rucks

The C. J. Tagliabue Mfg. Co., Brooklyn, N. Y., manufacturers of instruments for indicating, recording and controlling temperatures and pressures, as well as industrial thermometers, has announced the promotion of A. F. Rucks to the position of general sales manager.

J. S. Bleecker Appointed Manager of Sales of Lukenweld, Inc.

John S. Bleecker has been appointed manager of sales of Lukenweld, Inc. (Division of Lukens Steel Co.), Coatesville, Pa. He was graduated from the Massachusetts Institute of Technology in 1898. From 1901 to 1928 he was associated with the executive management of enterprises for Stone & Webster, Day & Zimmermann, and Bates, Inc.

Testing House at Greensboro Opens on Sept. 1.

The opening of its Greensboro Sampling House on Sept. 1, 1931, is announced by the United States Testing Co., Inc. The plan for this branch was referred to previously in these columns.

Stanley J. Gillie, assistant manager of the Philadelphia Testing House, will be the testing company's southern representative in charge of the Greensboro Sampling House, which is located at 526 Walker Avenue, Greensboro, N. C.

Fiftieth Anniversary of Founding of Solvay Process Co.

September marks the fiftieth anniversary of the incorporation of the Solvay Process Co. The original 30-ton per day soda ash plant at Syracuse, N. Y., was the beginning of the industry which now supplies a world-wide market with alkalies in varied forms. Rowland Hazard was the founder and first president of the Solvay Process Co. It now operates plants at Syracuse, N. Y., Detroit, Mich., and Hutchinson, Kan. In addition to commercial alkalies the company makes an extensive line of related products, including cleansing sodas, calcium chloride and liquid chlorine.

Changes in Elliott Service Co. Personnel

Elliott Service Co., Inc., New York City, through its president, George J. Kadel, announces the following executive personnel changes: R. T. Solensten, former manager of the industrial division to become vice-president; J. O. Emerson, editor of the National Board of Foremanship, to become manager of the industrial division.

Last Lecture in Course Sponsored by Commercial Factors Corp.

Those attending the last in the series of lectures sponsored by Commercial Factors Corp., given at the Alexander Hamilton Institute this week by Johnfritz Achelis, executive vice-president, heard a comprehensive history of the textile industry.

▸ Cotton Style Show Sept. 17

The fall style show to be held under the joint auspices of the Cotton-Textile Institute and the National Association of Cotton Dress Manufacturers is scheduled to be held at 40 Worth Street on Sept. 17.

▸ Rodier's American Agency

It is reported that Rodier of Paris is shortly to open an American agency at 385 Fifth Ave., New York.

▸ British July Rayon Figures

British rayon production for July was 4,900,000 lb. against 4,650,000 in June. Consumption totaled 4,840,000 lb. against 4,580,000. Reduction in stocks since Jan. 1 amounts to 1,300,000 lb.

Business Literature

Indanthren Dyestuffs. General Dyestuff Corp., New York. Pattern-card booklet contains details of the different methods of dyeing with Indanthren cotton colors, as well as a survey of their most important properties.

Bearing and Spindle Mountings. Wyrick Engineering Co., Wyandotte, Mich. Detailed description of bearing and spindle mounting units and compensators.

Boiler and Underfeed Stoker. James Leffel & Co., Springfield, Ohio. Release of test data showing performance of Leffel scotch marine type boiler equipped with new Leffel automatic underfeed stoker.

Oils and Leathers. E. F. Houghton Co., Philadelphia. Announcement is made of the revival of "Houghton Line," a trade booklet for the industry.

Potentiometer Pyrometer. Brown Instrument Co., Philadelphia. Some of the many advantages claimed for this instrument are explained in a four page folder.

Power Transmission. T. B. Wood's Sons Co., Chambersburg, Pa. Power transmission appliances including shafting hangers, pillow blocks, bearings, couplings, and collars are described in a small pamphlet.

Magnetic Clutches. Cutler-Hammer Inc., Milwaukee. Construction, operation, and application of C-H Magnetic clutches are discussed in a booklet issued by the company.

Emulsions. Glyco Products Co., Inc., Brooklyn, N. Y. Formulae for the preparation of oil emulsions containing ammonium linoleate are contained in a pamphlet issued by the company.

Humidity and Control. R. I. Humidifier & Ventilating Co., Boston, Mass. Description and illustrations of new and improved methods of controlling humidity.

Starting Switches. Allen-Bradley Co., Milwaukee, Wis. Several types of starting switches and contactors are described in a series of bulletins issued by this company.

Quartz Products. The Thermal Syndicate, Ltd., Brooklyn, N. Y. Catalog describes various quartz products designed for laboratory use and gives prices.

Package Dyeing. Franklin Process Co., Providence, R. I. Catalog describes Franklin process service to cotton weaving mills.

Chemical Containers. The U. S. Stoneware Co., Akron, Ohio. Bulletin 402 describes and indicates prices for jars, tanks, stills, and mixers manufactured by the company.

Tubing. Fansteel Products Co., Inc., North Chicago, Ill. The advantages of electro-fabricated Tantalum tubing and suggested uses for it are described.

Clogless Pumps. DeLaval Steam Turbine Co., Trenton, N. J. Pumps for handling liquids carrying solids in suspension are described in an illustrated catalog.

V-Belts. L. H. Gilmer Co., Philadelphia. Theoretical and practical illustrations of multiple V-drives and formulae for V-belt calculations are contained in a recent catalog.

Ventilating Equipment. Propellair Inc., Columbus, Ohio. Three new catalogs give description and specifications of this company's exhaust fans and ventilating equipment.

TEN MEN
Wait 30 Days

There are ten men in this mill to read one copy of *Textile World* each week. When the chief is away, it has to lie on his desk for a week, then it goes on to the superintendent's office, then to the purchasing agent.

No. 10 man got his copy 30 days after it was out. Several articles were torn out, a few ads were gone. He missed a series of articles from which he had been getting new ideas.

The remedy is to get more than one copy. No mill can afford these days to have its key men ignorant of current developments. Check over your routing list now. See when No. 10 gets his copy and how dog eared it looks. Then send us your order for the necessary number of copies to assure each executive and key man in your plant having a personal copy to study at his leisure.